United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Virginia Polytechnic Institute and State University

Soil Survey of Appomattox County, Virginia

How to Use This Soil Survey

General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

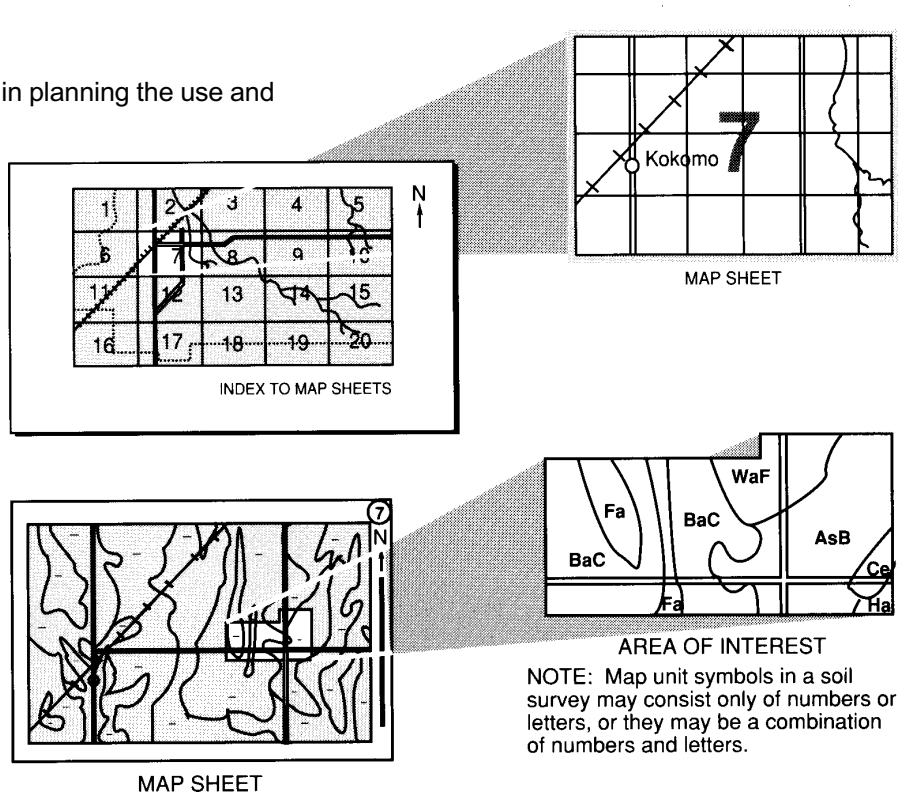
Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1990. Soil names and descriptions were approved in 1993. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1993. This soil survey was made cooperatively by the Natural Resources Conservation Service and the Virginia Polytechnic Institute and State University. Financial assistance was provided by the Virginia Department of Conservation and Recreation and the Appomattox County Board of Supervisors. The survey is part of the technical assistance furnished to the Robert E. Lee Soil and Water Conservation District.

Cover: Historic Appomattox Courthouse on Cullen clay loam, 2 to 7 percent slopes.

Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service home page on the World Wide Web. The address is http://www.nrcs.usda.gov (click on "Technical Resources").

Contents

Issued 2000

Foreword

This soil survey contains information that affects land use planning in Appomattox County. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various decisions for land use or land treatment. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

M. Denise Doetzer
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Appomattox County, Virginia

By William F. Kitchel, Virginia Polytechnic Institute and State University

Fieldwork by William F. Kitchel and Thomas Saxton, III, Virginia Polytechnic Institute and State University

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
Virginia Polytechnic Institute and State University

Appomattox County is in the Central Piedmont region of Virginia (fig. 1). It is bounded on the north by the James River, on the west by Campbell County, on the south by Charlotte County, and on the east by Prince Edward and Buckingham Counties.

In 1986, commercial forest land made up about 156,000 acres in the county, or about 72 percent of the area. The rest of the county was mainly used for agriculture, and less than 5 percent was areas of urban development.

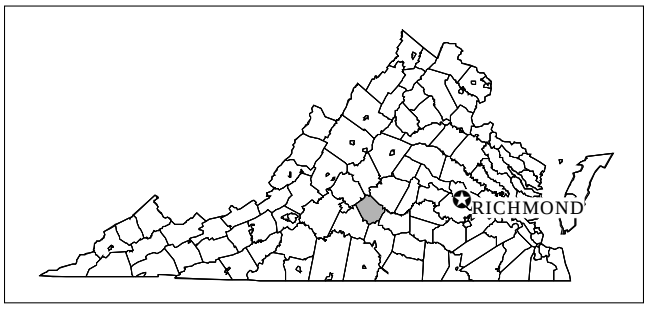


Figure 1.—Location of Appomattox County in Virginia.

General Nature of the County

This section gives general information about Appomattox County. It describes the history, geology, agriculture, industry, transportation facilities, water resources, and climate.

History

In 1845, Appomattox County was formed from portions of Buckingham, Campbell, Charlotte, and Prince Edward Counties. Both Appomattox County and the Appomattox River were named after the Appamatuck Indians, an Algonquin tribe under Powhatan's rule during the 1600's. Pioneer settlement expanded into the survey area during the early 1700's. In 1819, Alexander Patteson established the Clover Hill Tavern, a way station for his stagecoach line, which ran between Lynchburg and Richmond. When the county was formed, a courthouse was built across the street from the Clover Hill Tavern and the town was named Appomattox Court House.

Farming was the primary industry during the early settlement of Appomattox County, and tobacco was the major crop for many years. During the early period of settlement, tobacco was carried to Richmond by batteaux on the James River or by road in areas distant from the river. In 1852, the railroad was built through the county and a depot was established just west of the courthouse. The railroad shifted the focus of the county away from the courthouse, and the present-day town of Appomattox grew up around the railroad depot.

During the War Between the States, Appomattox County was generally spared the devastation of the war but made history by becoming the site of General Robert E. Lee's surrender to General Grant.

The first major industry in Appomattox County was the Pamplin Smoking Pipe Manufacturing Company, which was established in 1878. This factory manufactured clay pipes for more than 70 years, finally

closing in 1951. Although the apparel and furniture industries have become increasingly important in the county, a large number of residents still make a living from agriculture.

Geology

More than 2 billion years ago, thousands of feet of silt and clay sediments of a deep ocean basin were being "pressure cooked"—recrystallized under their own weight. This early ocean basin closed as huge plates of the earth's crust migrated, bringing the early continents of Europe and Africa toward North America. Great slabs of "pressure cooked," or metamorphic, rock were forced onto the edges of the continents. Several slices of this rock, some having volcanic ash and lava flows and some having calcium carbonate and carbon traces of early life, slid over each other and produced the Lynchburg Group of rocks that is located in the western part of the survey area. The Lynchburg Group consists of greenstones, marbles, graphite schist, gneisses, and quartzites.

Much more recently, quartzite (metamorphosed beach sand) deflected the course of the present-day James River near Chestnut Mountain. Another slice of metamorphic rock, long since isolated by erosion, became stranded between present-day Spout Spring and Oakville towards Appomattox. This is known as the Smith River allochthon, which contains mica schist that bears garnets and fragments of fairy stones in some areas.

Eastward from present-day Appomattox, another mix of metamorphosed sediments and volcanic materials, ranging from quartzite to hornblende gneiss, was deposited. This sequence of material was formed by a volcanic island-arc in the young ocean. As time passed, the continents migrated again, eventually reaching their current positions. Bedrock in the survey area thinned and broke, leaving a depressed trough stretching from near present-day Danville to near Appomattox. This trough became filled with boulders, gravel, sands, silts, and clays, which are now consolidated into sedimentary rock and make up the Danville Triassic Basin. The formation of this basin occurred during the Age of Dinosaurs, almost 2 million years ago. Although metamorphism has destroyed fossils in the older rocks, coal traces and dinosaur foot prints may be found in this basin. The fracturing of bedrock occurred at the end of the period of thinning, and molten rock rapidly filled the fractures. Now exposed near Wreck Island Creek and Bent Creek, these filled fractures are recognized as strings of heavy, dark diabase boulders.

Agriculture

In Appomattox County, approximately 3,500 acres are used for cultivated crops and 33,100 acres are used for pasture and hay. The acreage and number of farms in cultivated cropland have been decreasing. The size of the remaining farms has been increasing during the past 10 years. The major crops grown in the county are corn, corn silage, small grain, and tobacco. A small acreage is used for soybeans. A few small producers have small areas of U-pick strawberries and various other crops.

Most of the pasture consists of tall fescue or tall fescue and ladino clover. Most of the hayland consists of orchardgrass or tall fescue. The acreage of alfalfa has increased significantly in the past several years. Raising beef cattle, primarily in cow-calf operations, is the major livestock enterprise in the county. The production of dairy cattle is the second major livestock enterprise. A small number of hogs, horses, and sheep are also raised. The number of horses in the county is increasing.

Approximately 70 percent of Appomattox County is woodland. Much of this woodland consist of hardwoods or mixed hardwoods and pine. Much of the acreage of harvested woodland has been replanted to loblolly pine. Most of the timber is harvested for pulpwood, but some of the larger trees are sawed into lumber or used for veneer.

Industry

Most of the major manufacturing and business establishments in Appomattox County are located in or adjacent to the town of Appomattox. Some of the major industries in the town produce clothing and furniture. The town has three shopping centers. Small businesses scattered throughout Appomattox County produce clothing, crushed stone, lime, and other products. The county also has a few small general stores and sawmills. Several residents of Appomattox County work in the city of Lynchburg or in adjacent counties.

Transportation Facilities

U.S. Highway 460 runs east and west through Appomattox County and connects Appomattox with Richmond and Lynchburg. State Highway 24 runs northeast, intersecting U.S. Highway 60 at Mount Rush in Buckingham County. U.S. Highway 60 connects Amherst to the west and Richmond to the east. State Highway 26 runs north to Bent Creek,

where it intersects U.S. Highway 60. Several major highways converge in Lynchburg. They are easily accessible from Appomattox. They include U.S. Highways 29, 460, and 501. U.S. Highway 29 is a multilane highway running from Washington D.C., through Lynchburg, and southward to Danville and cities of the North Carolina Piedmont. U.S. Highway 460 runs east and west from Norfolk to St. Louis. It connects Appomattox County with the Hampton Roads area to the east and Roanoke to the west.

Freight service for the county is handled by several interstate carriers. Passenger bus service between Richmond and Lynchburg is scheduled daily. The nearest commercial airport is at Lynchburg, located 25 miles from Appomattox. Complete passenger, air express, and air freight services are available. One railroad crosses the county, running east and west. It is a direct line to the ports of Hampton Roads and to Roanoke and points west. Coal from southwestern Virginia and West Virginia is the principle product shipped.

Water Resources

Good-quality well water is available throughout Appomattox County. The survey area is underlain mostly by metamorphosed and igneous rocks that trend across the county in a northeasterly direction. The zone of unconsolidated soil, alluvium, and weathered rock is typically 40 to 60 feet thick. Ground water is in fractures and thin weathered zones which occur in the bedrock. The water table is generally at a depth of about 30 to 40 feet in the unconsolidated material. The dug wells and springs that obtain water from the zone of unconsolidated material generally have only small yields during periods of normal precipitation and may become dry if used heavily during periods of drought. In many areas, because of this and the increased consumption of water, water supplies from shallow sources are no longer used and wells have been drilled that generally are more productive, more sanitary, and not seriously affected by drought.

Most existing wells are located, for convenience, near homes and roads in high areas. About 75 percent of these wells are less than 150 feet deep, and 90 percent of them yield less than 15 gallons per minute. The average yield of wells probably could be increased by drilling in more favorable locations, such as valleys, draws, or upland flat areas. The ground water from most sources is soft and does not have excessive mineralization. Locally, the water may be hard or contain excessive amounts of iron, which may be the result of corrosion of iron in the water system. Ground water from shallow depths, such as that obtained from most springs and dug wells, is sometimes less mineralized than water from greater depths. The towns of Appomattox and Pamplin currently are the only municipalities providing water services. The water is provided by a series of dug wells.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Appomattox in the period 1961 to 1989. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is 35.3 degrees F and the average daily minimum temperature is 24.8 degrees. The lowest temperature on record, which occurred on December 26, 1983, is -8.0 degrees. In summer, the average temperature is 73.5 degrees and the average daily maximum temperature is 84.7 degrees. The highest recorded temperature, which occurred on July 22, 1977, is 103 degrees.

Growing degree days are shown in table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total average annual precipitation is about 42.2 inches. Of this, 21.3 inches, or about 51 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 15.7 inches. The heaviest 1-day rainfall during the period of record was 8.4 inches on September 8, 1987.

The average seasonal snowfall is 17 inches. The greatest snowfall at any one time during the period of record was 14 inches.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock.

They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify the soils. After describing the soils and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area are generally collected for laboratory analyses and for engineering tests. The data from these analyses and tests and from field-observed characteristics and soil properties are used to predict behavior of the soils under different uses. Interpretations are field tested through observation of the soils in different uses under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a relatively high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot assure that a high water table will be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in accurately locating boundaries.

General Soil Map Units

The general soil map at the back of this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or a building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

1. Cecil-Louisburg-Mattaponi

Setting

Topography: Ridgetops and side slopes
Location: Eastern part of the county
Vegetation: Mixed hardwoods, pines, and crops
Slope range: 2 to 50 percent
Elevation: 400 to 700 feet
Drainage pattern: Dendritic

Composition

Percent of survey area: 11
Cecil soils: 25 percent
Louisburg soils: 21 percent
Mattaponi soils: 5 percent
Minor soils: 49 percent

Soil Properties and Qualities

Cecil

Depth: Very deep
Drainage class: Well drained
Parent material: Felsic crystalline rock
Permeability: Moderate
Soil description:
0 to 9 inches—strong brown sandy loam
9 to 16 inches—red clay loam
16 to 50 inches—red clay
50 to 65 inches—red clay loam that has yellowish red lithochromic masses

Louisburg

Depth: Moderately deep
Drainage class: Well drained to excessively drained
Parent material: Felsic crystalline rock
Permeability: Rapid
Soil description:
0 to 4 inches—dark grayish brown gravelly coarse sandy loam
4 to 13 inches—yellowish brown gravelly coarse sandy loam
13 to 28 inches—60 percent brownish yellow gravelly sandy loam and 40 percent yellowish brown gravelly sandy clay loam
28 to 72 inches—brownish yellow and strong brown slightly weathered granite that crushes to gravelly coarse sandy loam

Mattaponi

Depth: Very deep
Drainage class: Moderately well drained
Parent material: Alluvium or colluvium
Permeability: Moderately slow
Soil description:
0 to 9 inches—brown sandy loam
9 to 38 inches—strong brown clay loam
38 to 45 inches—strong brown clay that has red iron and manganese masses
45 to 65 inches—strong brown clay that has pinkish gray iron and manganese depletions

Minor Soils

- The well drained Wedowee, Pacolet, Poindexter, Riverview, Mecklenburg, State, and Cullen soils
- The moderately well drained Altavista and Iredell soils
- The somewhat poorly drained Chewacla soils
- The poorly drained Wehadkee soils

2. Tatum-Manteo-Mattaponi

Setting

Topography: Ridgetops and side slopes
Location: Southeastern part of the county
Vegetation: Mixed hardwoods, pines, and crops
Slope range: 2 to 60 percent
Elevation: 500 to 800 feet
Drainage pattern: Dendritic

Composition

Percent of survey area: 14
Tatum soils: 38 percent
Manteo soils: 22 percent
Mattaponi soils: 5 percent
Minor soils: 35 percent

Soil Properties and Qualities

Tatum

Depth: Deep
Drainage class: Well drained
Parent material: Sericite schist and phyllite
Permeability: Moderate
Soil description:
2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 5 inches—yellowish brown silt loam
5 to 10 inches—strong brown silt loam
10 to 41 inches—red clay
41 to 60 inches—variegated light olive brown and reddish brown weathered sericite schist that crushes to loam

Manteo

Depth: Shallow
Drainage class: Somewhat excessively drained
Parent material: Sericite schist
Permeability: Moderately rapid
Soil description:
2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist

Mattaponi

Depth: Very deep
Drainage class: Moderately well drained
Parent material: Alluvium or colluvium
Permeability: Moderately slow
Soil description:
0 to 9 inches—brown sandy loam
9 to 38 inches—strong brown clay loam
38 to 45 inches—strong brown clay that has red iron and manganese masses
45 to 65 inches—strong brown clay that has pinkish gray iron and manganese depletions

Minor Soils

- The well drained Wedowee, Pacolet, Nason, Appomattox, Poindexter, Mecklenburg, Louisburg, and Cullen soils
- The somewhat poorly drained Chewacla soils
- The poorly drained Wehadkee soils

3. Tatum-Manteo

Setting

Topography: Ridgetops and side slopes
Location: Northeastern part of the county
Vegetation: Mixed hardwoods, pines, and crops
Slope range: 2 to 60 percent
Elevation: 500 to 800 feet
Drainage pattern: Dendritic

Composition

Percent of survey area: 13
Tatum soils: 50 percent
Manteo soils: 34 percent
Minor soils: 16 percent

Soil Properties and Qualities

Tatum

Depth: Deep
Drainage class: Well drained
Parent material: Sericite schist and phyllite
Permeability: Moderate
Soil description:
2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 5 inches—yellowish brown silt loam
5 to 10 inches—strong brown silt loam
10 to 41 inches—red clay
41 to 60 inches—variegated light olive brown and reddish brown weathered sericite schist that crushes to loam

Manteo

Depth: Shallow
Drainage class: Somewhat excessively drained
Parent material: Sericite schist

Permeability: Moderately rapid
Soil description:
2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist

Minor Soils

- The well drained Cullen, Mecklenburg, and Appomattox soils
- The somewhat poorly drained Chewacla soils
- The poorly drained Wehadkee soils

4. Cecil-Pacolet-Cullen

Setting

Topography: Ridgetops and side slopes
Location: Western part of the county
Vegetation: Mixed hardwoods, pines, and crops
Slope range: 2 to 25 percent
Elevation: 500 to 850 feet
Drainage pattern: Dendritic

Composition

Percent of survey area: 26
Cecil soils: 21 percent
Pacolet soils: 20 percent
Cullen soils: 10 percent
Minor soils: 49 percent

Soil Properties and Qualities

Cecil

Depth: Very deep
Drainage class: Well drained
Parent material: Felsic crystalline rock
Permeability: Moderate
Soil description:
0 to 9 inches—strong brown sandy loam
9 to 16 inches—red clay loam
16 to 50 inches—red clay
50 to 65 inches—red clay loam that has yellowish red lithochromic masses

Pacolet

Depth: Very deep
Drainage class: Well drained
Parent material: Felsic crystalline rock
Permeability: Moderate
Soil description:
0 to 7 inches—brown sandy loam
7 to 23 inches—red clay
23 to 29 inches—red clay that has reddish yellow lithochromic masses
29 to 50 inches—yellowish red, red, and yellowish brown loam
50 to 64 inches—yellowish brown, strong brown, and red loam

Cullen

Depth: Very deep
Drainage class: Well drained
Parent material: Mixed felsic and mafic crystalline rock
Permeability: Moderate
Soil description:
0 to 9 inches—reddish brown clay loam
9 to 29 inches—dark red clay
29 to 42 inches—red clay
42 to 65 inches—red clay that has strong brown lithochromic masses

Minor Soils

- The well drained Mecklenburg, Poindexter, Louisburg, and Appomattox soils
- The somewhat poorly drained Chewacla soils
- The poorly drained Wehadkee soils

5. Mecklenburg-Cullen-Iredell

Setting

Topography: Ridgetops and side slopes
Location: Central and north-central parts of the county
Vegetation: Mixed hardwoods, pines, and crops
Slope range: 2 to 25 percent
Elevation: 500 to 850 feet
Drainage pattern: Dendritic

Composition

Percent of survey area: 19
Mecklenburg soils: 28 percent
Cullen soils: 27 percent
Iredell soils: 18 percent
Minor soils: 27 percent

Soil Properties and Qualities

Mecklenburg

Depth: Very deep
Drainage class: Well drained
Parent material: Mafic crystalline rock
Permeability: Slow

Soil description:
0 to 4 inches—reddish brown loam
4 to 30 inches—red clay that has black iron and manganese masses
30 to 39 inches—yellowish red clay that has black iron and manganese masses
39 to 50 inches—yellowish red and brownish yellow loam that has black iron and manganese masses
50 to 65 inches—red, reddish yellow, and brownish yellow loam that has black iron and manganese masses

Cullen

Depth: Very deep
Drainage class: Well drained
Parent material: Mixed felsic and mafic crystalline rock
Permeability: Moderate
Soil description:
0 to 9 inches—reddish brown clay loam
9 to 29 inches—dark red clay
29 to 42 inches—red clay
42 to 65 inches—red clay that has strong brown lithochromic masses

Iredell

Depth: Deep
Drainage class: Moderately well drained
Parent material: Mafic crystalline rock
Permeability: Slow
Soil description:
0 to 5 inches—dark yellowish brown loam
5 to 23 inches—yellowish brown clay
23 to 43 inches—yellowish brown, very pale brown, and dark olive gray silt loam
43 to 63 inches—yellowish brown, very pale brown, and dark olive gray slightly weathered chloritic schist that crushes to silt loam
63 inches—hard chloritic schist

Minor Soils

- The well drained Poindexter, Cecil, and Tatum soils
- The somewhat poorly drained Chewacla soils
- The poorly drained Wehadkee soils

6. Manteo-Poindexter-Louisburg

Setting

Topography: Side slopes
Location: Northwestern part of the county
Vegetation: Mixed hardwoods and pines
Slope range: 2 to 60 percent
Elevation: 500 to 1,000 feet
Drainage pattern: Dendritic

Composition

Percent of survey area: 2
Manteo soils: 25 percent
Poindexter soils: 20 percent
Louisburg soils: 15 percent
Minor soils: 40 percent

Soil Properties and Qualities

Manteo

Depth: Shallow
Drainage class: Somewhat excessively drained
Parent material: Sericite schist
Permeability: Moderately rapid
Soil description:
2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist

Poindexter

Depth: Moderately deep
Drainage class: Well drained
Parent material: Mixed felsic and mafic crystalline rock
Permeability: Moderate
Soil description:
0 to 7 inches—dark grayish brown gravelly silt loam
7 to 21 inches—dark yellowish brown silt loam that has olive brown lithochromic masses
21 to 30 inches—variegated dark yellowish brown, greenish gray, olive brown, and grayish green silt loam
30 to 51 inches—variegated dark yellowish brown, greenish gray, olive brown, and grayish green weathered hornblende gneiss that crushes to gravelly silt loam
51 inches—hard hornblende gneiss

Louisburg

Depth: Moderately deep
Drainage class: Well drained to excessively drained
Parent material: Felsic crystalline rock
Permeability: Rapid
Soil description:
0 to 4 inches—dark grayish brown gravelly coarse sandy loam
4 to 13 inches—yellowish brown gravelly coarse sandy loam

13 to 28 inches—60 percent brownish yellow gravelly sandy loam and 40 percent yellowish brown gravelly sandy clay loam
28 to 72 inches—brownish yellow and strong brown slightly weathered granite that crushes to gravelly coarse sandy loam

Minor Soils

- The well drained Mayodan, Pacolet, and Mecklenburg soils
- The somewhat poorly drained Chewacla soils
- The poorly drained Wehadkee soils

7. Tatum-Manteo-Appomattox

Setting

Topography: Ridgetops and side slopes
Location: Northwestern part of the county
Vegetation: Mixed hardwoods, pines, and crops
Slope range: 2 to 60 percent
Elevation: 500 to 1,150 feet
Drainage pattern: Dendritic

Composition

Percent of survey area: 8
Tatum soils: 43 percent
Manteo soils: 31 percent
Appomattox soils: 4 percent
Minor soils: 22 percent

Soil Properties and Qualities

Tatum

Depth: Deep
Drainage class: Well drained
Parent material: Sericite schist and phyllite
Permeability: Moderate
Soil description:
2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 5 inches—yellowish brown silt loam
5 to 10 inches—strong brown silt loam
10 to 41 inches—red clay
41 to 60 inches—variegated light olive brown and reddish brown weathered sericite schist that crushes to loam

Manteo

Depth: Shallow
Drainage class: Somewhat excessively drained
Parent material: Sericite schist
Permeability: Moderately rapid
Soil description:
2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist

Appomattox

Depth: Very deep
Drainage class: Well drained
Parent material: Alluvium or colluvium
Permeability: Moderately slow
Soil description:
0 to 6 inches—brown gravelly sandy loam
6 to 9 inches—red clay loam
9 to 36 inches—red clay
36 to 49 inches—red clay that has dark red, yellowish brown, and very pale brown iron and manganese masses
49 to 64 inches—red clay that has dark red and yellowish brown iron and manganese masses and light gray iron and manganese depletions

Minor Soils

- The well drained Cecil, Pacolet, Louisburg, and Cullen soils
- The somewhat poorly drained Chewacla soils
- The poorly drained Wehadkee soils

8. Tatum-Manteo-Turbeville

Setting

Topography: Ridgetops and side slopes
Location: Northeastern part of the county
Vegetation: Mixed hardwoods, pines, and crops
Slope range: 2 to 60 percent
Elevation: 500 to 800 feet
Drainage pattern: Dendritic

Composition

Percent of survey area: 2
Tatum soils: 33 percent
Manteo soils: 33 percent
Turbeville soils: 20 percent
Minor soils: 14 percent

Soil Properties and Qualities

Tatum

Depth: Deep
Drainage class: Well drained
Parent material: Sericite schist and phyllite
Permeability: Moderate
Soil description:
2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 5 inches—yellowish brown silt loam
5 to 10 inches—strong brown silt loam
10 to 41 inches—red clay
41 to 60 inches—variegated light olive brown and reddish brown weathered sericite schist that crushes to loam

Manteo

Depth: Shallow
Drainage class: Somewhat excessively drained
Parent material: Sericite schist
Permeability: Moderately rapid
Soil description:
2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist

Turbeville

Depth: Very deep
Drainage class: Well drained
Parent material: Alluvium
Permeability: Moderate
Soil description:
0 to 4 inches—dark brown loam
4 to 65 inches—red clay that has black soft masses

Minor Soils

- The well drained Cecil, Pacolet, and Cullen soils
- The somewhat poorly drained Chewacla soils
- The poorly drained Wehadkee soils

9. Louisburg-Beckham-Mayodan

Setting

Topography: Ridgetops and side slopes
Location: Northeastern part of the county
Vegetation: Mixed hardwoods, pines, and crops
Slope range: 2 to 50 percent
Elevation: 450 to 900 feet
Drainage pattern: Dendritic

Composition

Percent of survey area: 1
Louisburg soils: 36 percent
Beckham soils: 25 percent
Mayodan soils: 21 percent
Minor soils: 18 percent

Soil Properties and Qualities

Louisburg

Depth: Moderately deep
Drainage class: Well drained to excessively drained
Parent material: Felsic crystalline rock
Permeability: Rapid
Soil description:
0 to 4 inches—dark grayish brown gravelly coarse sandy loam
4 to 13 inches—yellowish brown gravelly coarse sandy loam
13 to 28 inches—60 percent brownish yellow gravelly sandy loam and 40 percent yellowish brown gravelly sandy clay loam
28 to 72 inches—brownish yellow and strong brown slightly weathered granite that crushes to gravelly coarse sandy loam

Beckham

Depth: Very deep
Drainage class: Well drained
Parent material: Marble
Permeability: Moderate
Soil description:
0 to 7 inches—very dusky red clay loam
7 to 72 inches—dark reddish brown clay

Mayodan

Depth: Deep
Drainage class: Well drained
Parent material: Quartzite
Permeability: Moderate
Soil description:
0 to 7 inches—strong brown gravelly sandy loam
7 to 45 inches—red clay
45 to 61 inches—red sandy clay loam that has strong brown highly weathered rock fragments

Minor Soils

- The well drained Appomattox, Pacolet, and Cullen soils
- The somewhat poorly drained Chewacla soils
- The poorly drained Wehadkee soils

10. Nason-Tatum-Manteo

Setting

Topography: Ridgetops and side slopes
Location: Southwestern part of the county
Vegetation: Mixed hardwoods and pines
Slope range: 2 to 60 percent
Elevation: 500 to 900 feet
Drainage pattern: Dendritic

Composition

Percent of survey area: 1
Nason soils: 33 percent
Tatum soils: 31 percent
Manteo soils: 22 percent
Minor soils: 14 percent

Soil Properties and Qualities

Nason

Depth: Deep
Drainage class: Well drained
Parent material: Schist and phyllite
Permeability: Moderate
Soil description:
0 to 4 inches—dark grayish brown gravelly loam
4 to 12 inches—yellowish brown gravelly loam
12 to 45 inches—strong brown clay that has red lithochromic masses
45 to 63 inches—strong brown, reddish brown, and reddish yellow weathered sericite schist that crushes to silt loam

Tatum

Depth: Deep
Drainage class: Well drained
Parent material: Sericite schist and phyllite
Permeability: Moderate
Soil description:
2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 5 inches—yellowish brown silt loam
5 to 10 inches—strong brown silt loam
10 to 41 inches—red clay
41 to 60 inches—variegated light olive brown and reddish brown weathered sericite schist that crushes to loam

Manteo

Depth: Shallow
Drainage class: Somewhat excessively drained
Parent material: Sericite schist
Permeability: Moderately rapid
Soil description:
2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist

Minor Soils

- The well drained Cullen, Cecil, and Mecklenburg soils
- The somewhat poorly drained Chewacla soils
- The poorly drained Wehadkee soils

11. Iredell-Mecklenburg

Setting

Topography: Ridgetops and side slopes
Location: Eastern part of the county
Vegetation: Mixed hardwoods, pines, and crops
Slope range: 2 to 25 percent
Elevation: 450 to 650 feet
Drainage pattern: Dendritic

Composition

Percent of survey area: 3
Iredell soils: 50 percent
Mecklenburg soils: 15 percent
Minor soils: 35 percent

Soil Properties and Qualities

Iredell

Depth: Deep
Drainage class: Moderately well drained
Parent material: Mafic crystalline rock
Permeability: Slow
Soil description:
0 to 5 inches—dark yellowish brown loam
5 to 23 inches—yellowish brown clay
23 to 43 inches—yellowish brown, very pale brown, and dark olive gray silt loam
43 to 63 inches—yellowish brown, very pale brown, and dark olive gray slightly weathered chloritic schist that crushes to silt loam
63 inches—hard chloritic schist

Mecklenburg

Depth: Very deep

Drainage class: Well drained
Parent material: Mafic crystalline rock
Permeability: Slow
Soil description:
0 to 4 inches—reddish brown loam
4 to 30 inches—red clay that has black iron and manganese masses
30 to 39 inches—yellowish red clay that has black iron and manganese masses
39 to 50 inches—yellowish red and brownish yellow loam that has black iron and manganese masses
50 to 65 inches—red, reddish yellow, and brownish yellow loam that has black iron and manganese masses

Minor Soils

- The well drained Poindexter, Cecil, and Wedowee soils
- The somewhat poorly drained Chewacla soils

Detailed Soil Map Units

The map units delineated on the detailed maps represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is given under the heading “Use and Management of the Soils.”

A map unit delineation on a map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils or miscellaneous areas. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils and miscellaneous areas are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some “included” areas that belong to other taxonomic classes.

Most included soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, inclusions. They may or may not be mentioned in the map unit description. Other included soils and miscellaneous areas, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, inclusions. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The included areas of contrasting soils or miscellaneous areas are mentioned in the map unit descriptions. A few included areas may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of included areas in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Cecil sandy loam, 2 to 7 percent slopes, is a phase of the Cecil series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes. A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Appomattox-Cullen complex, 2 to 7 percent slopes, is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. The Urban land part of Udorthents-

Urban land complex, 0 to 15 percent slopes, is an example.

Detailed map unit composition was decided by *subjective judgment*. Subjective judgment implies that 3 to 30 or more arbitrarily selected observations and less than 10 randomly selected observations are used to subjectively formulate map unit composition. The project staff relies mainly on impressions from field experience.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see "Contents") give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

1A—Altavista loam, 0 to 2 percent slopes, occasionally flooded

Setting

Drainage class: Moderately well drained
Landform: Stream terraces
Landscape position: Terrace treads
Parent material: Recent alluvium
Shape of areas: Irregular
Size of areas: 5 to 20 acres

Composition

Altavista soil and similar components: 85 to 90 percent
Dissimilar components: 10 to 15 percent

Minor Components

Dissimilar:
- Batteau soils, which are moderately well drained and in the more frequently flooded positions on flood plains
- Chewacla soils, which are somewhat poorly drained and in the more frequently flooded positions on flood plains
- Riverview soils, which are well drained and on flood plains
- State soils, which are well drained and in landscape positions similar to those of the Altavista soil
- Wehadkee soils, which are poorly drained and in the more frequently flooded positions on flood plains
- Wingina soils, which are well drained and on flood plains
- Yogaville soils, which are poorly drained and in the more frequently flooded positions on flood plains

Similar:
- Soils that have a clayey subsoil
- Soils that have a gravelly substratum

Typical Profile

0 to 6 inches—yellowish brown loam
6 to 25 inches—yellowish brown clay loam
25 to 40 inches—yellowish brown clay loam that has light gray iron and manganese depletions and yellowish red iron and manganese masses
40 to 65 inches—yellowish brown sandy clay loam that has light gray iron and manganese depletions

Additional information specific to the soils in this map unit is available in the section "Soil Properties." For general and detailed information about managing the map unit, refer to the section "Use and Management of the Soils."

2B—Appomattox-Cullen complex, 2 to 7 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Areas intermingled on summits, shoulders, and back slopes
Parent material: Appomattox—alluvium or colluvium underlain by residuum from crystalline rock; Cullen—residuum from mixed mafic and felsic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Appomattox soil and similar components: 40 to 50 percent
Cullen soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
- Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions

Similar:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Appomattox and Cullen soils
- Mattaponi soils, which are moderately well drained, have a yellowish brown capping of alluvium or colluvium, and are in landscape positions similar to those of the Appomattox and Cullen soils
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in

landscape positions similar to those of the Appomattox and Cullen soils
• Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Appomattox and Cullen soils
• Wedowee soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Appomattox and Cullen soils

Typical Profile

Appomattox

0 to 6 inches—brown gravelly sandy loam
6 to 9 inches—red clay loam
9 to 36 inches—red clay
36 to 49 inches—red clay that has dark red, yellowish brown, and very pale brown iron and manganese masses
49 to 65 inches—red clay that has dark red and yellowish brown iron and manganese masses and light gray iron and manganese depletions

Cullen

0 to 9 inches—reddish brown clay loam
9 to 29 inches—dark red clay
29 to 42 inches—red clay
42 to 65 inches—red clay that has strong brown lithochromic masses

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

2C—Appomattox-Cullen complex, 7 to 15 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Areas intermingled on shoulders and back slopes
Parent material: Appomattox—alluvium or colluvium underlain by residuum from crystalline rock (fig. 2); Cullen—residuum from mixed mafic and felsic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Appomattox soil and similar components: 40 to 50 percent
Cullen soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions

Similar:
• Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Appomattox and Cullen soils
• Mattaponi soils, which are moderately well drained, have a yellowish brown capping of alluvium or colluvium, and are in landscape positions similar to those of the Appomattox and Cullen soils
• Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Appomattox and Cullen soils
• Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Appomattox and Cullen soils
• Wedowee soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Appomattox and Cullen soils

Typical Profile

Appomattox

0 to 6 inches—brown gravelly sandy loam
6 to 9 inches—red clay loam
9 to 36 inches—red clay
36 to 49 inches—red clay that has dark red, yellowish brown, and very pale brown iron and manganese masses
49 to 65 inches—red clay that has dark red and yellowish brown iron and manganese masses and light gray iron and manganese depletions

Cullen

0 to 9 inches—reddish brown clay loam
9 to 29 inches—dark red clay
29 to 42 inches—red clay
42 to 65 inches—red clay that has strong brown lithochromic masses

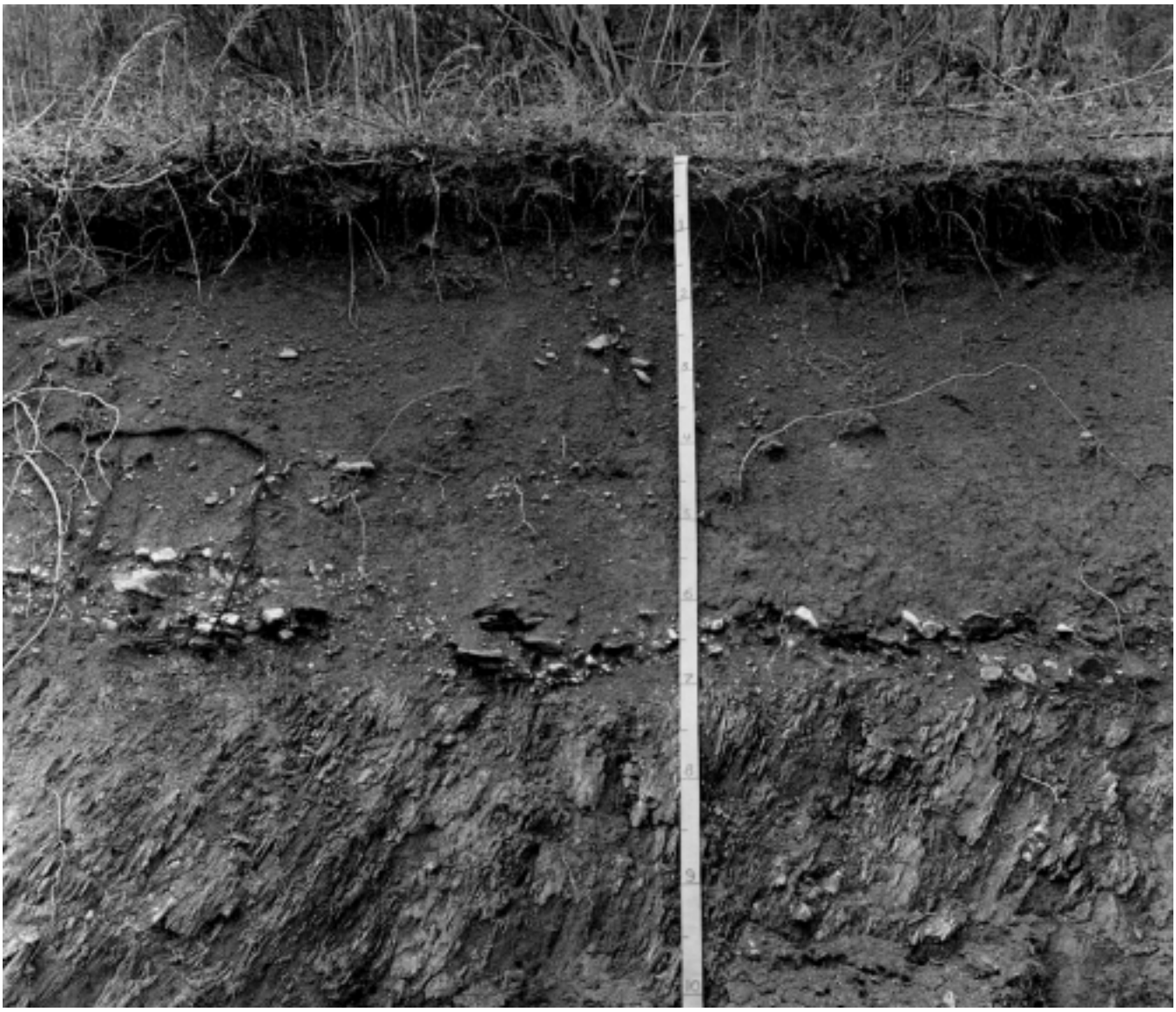


Figure 2.—Appomattox soil in an area of Appomattox-Cullen complex, 7 to 15 percent slopes. A line of rock fragments, consisting of gravel and cobbles, is at the interface of colluvium and residuum saprolite.

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

3A—Batteau loam, 0 to 2 percent slopes, frequently flooded

Setting

Drainage class: Moderately well drained
Landform: Flood plains of the James River
Landscape position: Linear to concave low areas
Parent material: Recent alluvium
Shape of areas: Long and winding
Size of areas: 5 to 20 acres

Composition

Batteau soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Altavista soils, which are moderately well drained and in the higher, less flood-prone positions

• Yogaville soils, which are poorly drained and in concave backwater positions

Similar:
• Wingina soils, which are well drained and in landscape positions similar to those of the Batteau soil

Typical Profile

0 to 13 inches—dark brown loam
13 to 32 inches—dark yellowish brown silt loam that has yellowish brown iron and manganese masses and gray iron and manganese depletions
32 to 60 inches—yellowish brown silt loam that has gray iron and manganese depletions
60 to 72 inches—gray sandy loam that has yellowish brown iron and manganese masses

Additional information specific to the soils in this map unit is available in the section "Soil Properties." For general and detailed information about managing the map unit, refer to the section "Use and Management of the Soils."

4B—Beckham clay loam, 2 to 7 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Summits and shoulders
Parent material: Marble residuum
Shape of areas: Irregular
Size of areas: 5 to 20 acres

Composition

Beckham soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
• Louisburg soils, which are well drained to excessively drained, are moderately deep to bedrock, and are on back slopes

Similar:
• Cecil soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
• Cullen soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
• Mayodan soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
• Soils that have 15 to 25 percent gravel in the surface layer

Typical Profile

0 to 7 inches—very dusky red clay loam
7 to 72 inches—dark reddish brown clay

Additional information specific to the soils in this map unit is available in the section "Soil Properties." For general and detailed information about managing the map unit, refer to the section "Use and Management of the Soils."

4C—Beckham clay loam, 7 to 15 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Shoulders and back slopes
Parent material: Marble residuum
Shape of areas: Irregular
Size of areas: 5 to 20 acres

Composition

Beckham soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
• Louisburg soils, which are well drained to excessively drained, are moderately deep to bedrock, and are on back slopes

Similar:
• Cecil soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
• Cullen soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
• Mayodan soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions

• Soils that have 15 to 25 percent gravel in the surface layer

Typical Profile

0 to 7 inches—very dusky red clay loam
7 to 72 inches—dark reddish brown clay

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

4D—Beckham clay loam, 15 to 25 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Back slopes
Parent material: Marble residuum
Shape of areas: Irregular
Size of areas: 5 to 20 acres

Composition

Beckham soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
• Louisburg soils, which are well drained to excessively drained, are moderately deep to bedrock, and are in landscape positions similar to those of the Beckham soil

Similar:
• Cecil soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
• Cullen soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
• Mayodan soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions

Typical Profile

0 to 7 inches—very dusky red clay loam
7 to 72 inches—dark reddish brown clay

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

5B—Cecil sandy loam, 2 to 7 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Summits and shoulders (fig. 3)
Parent material: Residuum from felsic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 500 acres

Composition

Cecil soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Cecil soil
• Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions
• Louisburg soils, which are well drained to excessively drained, are moderately deep to bedrock, and are on back slopes
• Mattaponi soils, which are moderately well drained and in landscape positions similar to those of the Cecil soil

Similar:
• Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Cecil soil
• Pacolet soils, which are well drained, have a solum that is thinner than that of the Cecil soil, and are in similar landscape positions
• Wedowee soils, which are well drained, have a solum that is thinner than that of the Cecil soil, and are in similar landscape positions

Typical Profile

0 to 9 inches—strong brown sandy loam
9 to 16 inches—red clay loam
16 to 50 inches—red clay
50 to 65 inches—red clay loam that has yellowish red lithochromic masses

Figure 3.—Pasture in an area of Cecil sandy loam, 2 to 7 percent slopes.

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

6A—Chewacla loam, 0 to 2 percent slopes, frequently flooded

Setting

Drainage class: Somewhat poorly drained
Landform: Flood plains
Landscape position: Low concave or linear areas
Parent material: Recent alluvium
Shape of areas: Long and winding
Size of areas: 5 to 100 acres

Composition

Chewacla soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
- Altavista soils, which are moderately well drained and in the higher, less flood-prone positions
- Riverview soils, which are well drained and in the higher, convex positions
- State soils, which are well drained and in the higher, less flood-prone positions

Similar:
- Wehadkee soils, which are poorly drained and in landscape positions similar to those of the Chewacla soil

• Soils that have 15 to 25 percent gravel in the surface layer

Typical Profile

0 to 3 inches—dark brown loam
3 to 13 inches—dark yellowish brown sandy loam
13 to 24 inches—dark brown loam that has grayish brown iron and manganese depletions
24 to 45 inches—grayish brown sandy loam that has dark reddish brown and black iron and manganese masses
45 to 65 inches—grayish brown very gravelly sandy loam that has dark reddish brown and black iron and manganese masses

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

7B—Cullen clay loam, 2 to 7 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Summits and shoulders
Parent material: Residuum from mixed mafic and felsic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 500 acres

Composition

Cullen soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Cullen soil
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Iredell soils, which are moderately well drained and in landscape positions similar to those of the Cullen soil
• Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Cullen soil

Similar:
• Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Cullen soil
• Mecklenburg soils, which are well drained, have higher base saturation than the Cullen soil, and are in similar landscape positions
• Turbeville soils, which are well drained, formed in alluvium, and are in landscape positions similar to those of the Cullen soil
• Soils that have 15 to 25 percent gravel in the surface layer

Typical Profile

0 to 9 inches—reddish brown clay loam
9 to 29 inches—dark red clay
29 to 42 inches—red clay
42 to 65 inches—red clay that has strong brown lithochromic masses

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

8B—Iredell loam, 2 to 7 percent slopes

Setting

Drainage class: Moderately well drained
Landform: Uplands
Landscape position: Summits and shoulders
Parent material: Residuum from mafic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Iredell soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Cullen soils, which are well drained and in landscape positions similar to those of the Iredell soil
• Louisburg soils, which are well drained to excessively drained and are in landscape positions similar to those of the Iredell soil
• Mecklenburg soils, which are well drained and in landscape positions similar to those of the Iredell soil
• Poindexter soils, which are well drained and on back slopes
• Wedowee soils, which are well drained and in landscape positions similar to those of the Iredell soil

Similar:
• Soils that are moderately deep to weathered bedrock and in landscape positions similar to those of the Iredell soil

Typical Profile

0 to 5 inches—dark yellowish brown loam
5 to 23 inches—yellowish brown clay
23 to 43 inches—yellowish brown, very pale brown, and dark olive gray silt loam
43 to 63 inches—yellowish brown, very pale brown, and dark olive gray slightly weathered chloritic schist that crushes to silt loam
63 inches—chloritic schist bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

8C—Iredell loam, 7 to 15 percent slopes

Setting

Drainage class: Moderately well drained
Landform: Uplands
Landscape position: Shoulders and back slopes
Parent material: Residuum from mafic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Iredell soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Cullen soils, which are well drained and in landscape positions similar to those of the Iredell soil
• Louisburg soils, which are well drained to excessively drained and in landscape positions similar to those of the Iredell soil
• Mecklenburg soils, which are well drained and in landscape positions similar to those of the Iredell soil
• Poindexter soils, which are well drained and on back slopes
• Wedowee soils, which are well drained and in landscape positions similar to those of the Iredell soil

Similar:
• Soils that are moderately deep to weathered bedrock and in landscape positions similar to those of the Iredell soil

Typical Profile

0 to 5 inches—dark yellowish brown loam
5 to 23 inches—yellowish brown clay
23 to 43 inches—yellowish brown, very pale brown, and dark olive gray silt loam
43 to 63 inches—yellowish brown, very pale brown, and dark olive gray slightly weathered chloritic schist that crushes to silt loam
63 inches—chloritic schist bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

9E—Louisburg gravelly coarse sandy loam, 25 to 50 percent slopes

Setting

Drainage class: Well drained to excessively drained
Landform: Uplands
Landscape position: Back slopes
Parent material: Residuum from felsic crystalline rock
Shape of areas: Long and winding
Size of areas: 5 to 200 acres

Composition

Louisburg soil and similar components: 80 to 90 percent
Dissimilar components: 10 to 20 percent

Minor Components

Dissimilar:
• Cecil soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Louisburg soil
• Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions
• Iredell soils, which are moderately well drained and in landscape positions similar to those of the Louisburg soil
• Manteo soils, which are shallow to bedrock and in landscape positions similar to those of the Louisburg soil
• Mattaponi soils, which are moderately well drained and in landscape positions similar to those of the Louisburg soil
• Mecklenburg soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Louisburg soil
• Pacolet soils, which are well drained, very deep to

bedrock, and in landscape positions similar to those of the Louisburg soil
• Wedowee soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Louisburg soil
• Soils that have stones on the surface and are in landscape positions similar to those of the Louisburg soil
• Rock outcrop in landscape positions similar to those of the Louisburg soil

Similar:
• Manteo soils, which are somewhat excessively drained and in landscape positions similar to those of the Louisburg soil
• Poindexter soils, which are well drained, have less clay in the subsoil than the Louisburg soil, and are in similar landscape positions

Typical Profile

0 to 4 inches—dark grayish brown gravelly coarse sandy loam
4 to 13 inches—yellowish brown gravelly coarse sandy loam
13 to 28 inches—60 percent brownish yellow gravelly sandy loam and 40 percent yellowish brown gravelly sandy clay loam
28 to 72 inches—brownish yellow and strong brown slightly weathered granite that crushes to gravelly coarse sandy loam

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

10E—Manteo-Rock outcrop complex, 7 to 60 percent slopes

Setting

Drainage class: Somewhat excessively drained
Landform: Uplands
Landscape position: Areas intermingled on shoulders and back slopes
Parent material: Residuum from sericite schist
Shape of areas: Long and winding
Size of areas: 5 to 30 acres

Composition

Manteo soil and similar components: 50 to 60 percent
Rock outcrop: 25 to 35 percent
Dissimilar components: 5 to 20 percent

Minor Components

Dissimilar:
• Mecklenburg soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop
• Nason soils, which are well drained, deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop
• Pacolet soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop
• Tatum soils, which are well drained, deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop
• Turbeville soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop
• Wedowee soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop

Similar:
• Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop
• Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop

Typical Profile

Manteo

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist bedrock

Rock outcrop

Rock outcrop consists of areas where mafic, felsic, igneous, and metamorphic rock crops out at the surface.

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

11E—Manteo very channery loam, 25 to 60 percent slopes

Setting

Drainage class: Somewhat excessively drained
Landform: Uplands
Landscape position: Back slopes
Parent material: Residuum from sericite schist
Shape of areas: Long and winding
Size of areas: 5 to 200 acres

Composition

Manteo soil and similar components: 80 to 90 percent
Dissimilar components: 10 to 20 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions
• Mecklenburg soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil
• Nason soils, which are well drained, deep to bedrock, and in landscape positions similar to those of the Manteo soil
• Pacolet soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil
• Tatum soils, which are well drained, deep to bedrock, and in landscape positions similar to those of the Manteo soil
• Turbeville soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil
• Wedowee soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil

Similar:
• Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Manteo soil
• Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Manteo soil

Typical Profile

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

12B—Mattaponi-Cecil complex, 2 to 7 percent slopes

Setting

Drainage class: Mattaponi—moderately well drained; Cecil—well drained
Landform: Uplands
Landscape position: Areas intermingled on summits, on shoulders, and in saddles
Parent material: Mattaponi—alluvium or colluvium underlain by residuum from crystalline rock; Cecil—residuum from felsic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Mattaponi soil and similar components: 40 to 50 percent
Cecil soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions
• Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Mattaponi and Cecil soils

Similar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium having redder colors, and are in landscape positions similar to those of the Mattaponi and Cecil soils
• Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Mattaponi and Cecil soils
• Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Mattaponi and Cecil soils
• Pacolet soils, which are well drained and in

landscape positions similar to those of the Mattaponi and Cecil soils
• Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Mattaponi and Cecil soils
• Wedowee soils, which are well drained and in landscape positions similar to those of the Mattaponi and Cecil soils

Typical Profile

Mattaponi

0 to 9 inches—brown sandy loam
9 to 38 inches—strong brown clay loam
38 to 45 inches—strong brown clay that has red iron and manganese masses
45 to 65 inches—strong brown clay that has pinkish gray iron and manganese depletions

Cecil

0 to 9 inches—strong brown sandy loam
9 to 16 inches—red clay loam
16 to 50 inches—red clay
50 to 65 inches—red clay loam that has yellowish red lithochromic masses

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

12C—Mattaponi-Cecil complex, 7 to 15 percent slopes

Setting

Drainage class: Mattaponi—moderately well drained; Cecil—well drained
Landform: Uplands
Landscape position: Areas intermingled on shoulders and back slopes
Parent material: Mattaponi—alluvium or colluvium underlain by residuum from crystalline rock; Cecil—residuum from felsic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 20 acres

Composition

Mattaponi soil and similar components: 40 to 50 percent
Cecil soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions
• Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Mattaponi and Cecil soils

Similar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium having redder colors, and are in landscape positions similar to those of the Mattaponi and Cecil soils
• Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Mattaponi and Cecil soils
• Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Mattaponi and Cecil soils
• Pacolet soils, which are well drained and in landscape positions similar to those of the Mattaponi and Cecil soils
• Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Mattaponi and Cecil soils
• Wedowee soils, which are well drained and in landscape positions similar to those of the Mattaponi and Cecil soils

Typical Profile

Mattaponi

0 to 9 inches—brown sandy loam
9 to 38 inches—strong brown clay loam
38 to 45 inches—strong brown clay that has red iron and manganese masses
45 to 65 inches—strong brown clay that has pinkish gray iron and manganese depletions

Cecil

0 to 9 inches—strong brown sandy loam
9 to 16 inches—red clay loam
16 to 50 inches—red clay
50 to 65 inches—red clay loam that has yellowish red lithochromic masses

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

13B—Mayodan gravelly sandy loam, 2 to 7 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Summits and shoulders
Parent material: Quartzite residuum
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Mayodan soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Louisburg soils, which are well drained to excessively drained and in landscape positions similar to those of the Mayodan soil

Similar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Mayodan soil
• Beckham soils, which are well drained, formed in marble residuum, and are in the lower landscape positions

Typical Profile

0 to 7 inches—strong brown gravelly sandy loam
7 to 45 inches—red clay
45 to 61 inches—red sandy clay loam that has strong brown highly weathered rock fragments

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

13C—Mayodan gravelly sandy loam, 7 to 15 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Shoulders and back slopes
Parent material: Quartzite residuum
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Mayodan soil and similar components: 80 to 90 percent
Dissimilar components: 10 to 20 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Louisburg soils, which are well drained to excessively drained and in landscape positions similar to those of the Mayodan soil

Similar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Mayodan soil
• Beckham soils, which are well drained, formed in marble residuum, and are in the lower landscape positions

Typical Profile

0 to 7 inches—strong brown gravelly sandy loam
7 to 45 inches—red clay
45 to 61 inches—red sandy clay loam that has strong brown highly weathered rock fragments

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

13D—Mayodan gravelly sandy loam, 15 to 25 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Back slopes
Parent material: Quartzite residuum
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Mayodan soil and similar components: 80 to 90 percent
Dissimilar components: 10 to 20 percent

Minor Components

Dissimilar:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Louisburg soils, which are well drained to excessively drained and in landscape positions similar to those of the Mayodan soil

Similar:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Mayodan soil
- Beckham soils, which are well drained, formed in marble residuum, and are in the lower landscape positions

Typical Profile

0 to 7 inches—strong brown gravelly sandy loam
7 to 45 inches—red clay
45 to 61 inches—red sandy clay loam that has strong brown highly weathered rock fragments

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

14B—Mecklenburg loam, 2 to 7 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Summits and shoulders
Parent material: Residuum from mafic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Mecklenburg soil and similar components: 80 to 90 percent
Dissimilar components: 10 to 20 percent

Minor Components

Dissimilar:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Iredell soils, which are moderately well drained and in landscape positions similar to those of the Mecklenburg soil
- Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Mecklenburg soil
- Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Mecklenburg soil

Similar:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg soil
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg soil
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg soil
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Mecklenburg soil
- Wedowee soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg soil
- Soils that have 15 to 25 percent gravel in the surface layer

Typical Profile

0 to 4 inches—reddish brown loam
4 to 30 inches—red clay that has black iron and manganese masses
30 to 39 inches—yellowish red clay that has black iron and manganese masses
39 to 50 inches—yellowish red and brownish yellow loam that has black iron and manganese masses
50 to 65 inches—red, reddish yellow, and brownish yellow loam that has black iron and manganese masses

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

15B—Mecklenburg-Poindexter complex, 2 to 7 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands

Landscape position: Areas intermingled on summits and shoulders
Parent material: Residuum from mafic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 20 acres

Composition

Mecklenburg soil and similar components: 45 to 50 percent
Poindexter soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Iredell soils, which are moderately well drained and in landscape positions similar to those of the Mecklenburg and Poindexter soils
• Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Mecklenburg and Poindexter soils

Similar:
• Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
• Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
• Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
• Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils

Typical Profile

Mecklenburg

0 to 4 inches—reddish brown loam
4 to 30 inches—red clay that has black iron and manganese masses
30 to 39 inches—yellowish red clay that has black iron and manganese masses
39 to 50 inches—yellowish red and brownish yellow loam that has black iron and manganese masses
50 to 65 inches—red, reddish yellow, and brownish yellow loam that has black iron and manganese masses

Poindexter

0 to 7 inches—dark grayish brown gravelly silt loam
7 to 21 inches—dark yellowish brown silt loam that has olive brown lithochromic masses
21 to 30 inches—variegated dark yellowish brown, greenish gray, olive brown, and grayish green silt loam
30 to 51 inches—variegated dark yellowish brown, greenish gray, olive brown, and grayish green weathered hornblende gneiss that crushes to gravelly silt loam
51 inches—hard hornblende gneiss bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

15C—Mecklenburg-Poindexter complex, 7 to 15 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Areas intermingled on shoulders and back slopes
Parent material: Residuum from mafic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Mecklenburg soil and similar components: 40 to 50 percent
Poindexter soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Iredell soils, which are moderately well drained and in landscape positions similar to those of the Mecklenburg and Poindexter soils
• Louisburg soils, which are well drained to

excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Mecklenburg and Poindexter soils

Similar:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils

Typical Profile

Mecklenburg

0 to 4 inches—reddish brown loam
4 to 30 inches—red clay that has black iron and manganese masses
30 to 39 inches—yellowish red clay that has black iron and manganese masses
39 to 50 inches—yellowish red and brownish yellow loam that has black iron and manganese masses
50 to 65 inches—red, reddish yellow, and brownish yellow loam that has black iron and manganese masses

Poindexter

0 to 7 inches—dark grayish brown gravelly silt loam
7 to 21 inches—dark yellowish brown silt loam that has olive brown lithochromic masses
21 to 30 inches—variegated dark yellowish brown, greenish gray, olive brown, and grayish green silt loam
30 to 51 inches—variegated dark yellowish brown, greenish gray, olive brown, and grayish green weathered hornblende gneiss that crushes to gravelly silt loam
51 inches—hard hornblende gneiss bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

15D—Mecklenburg-Poindexter complex, 15 to 25 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Areas intermingled on back slopes
Parent material: Residuum from mafic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Mecklenburg soil and similar components: 45 to 55 percent
Poindexter soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Iredell soils, which are moderately well drained and in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Mecklenburg and Poindexter soils

Similar:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils

Typical Profile

Mecklenburg

0 to 4 inches—reddish brown loam

4 to 30 inches—red clay that has black iron and manganese masses
30 to 39 inches—yellowish red clay that has black iron and manganese masses
39 to 50 inches—yellowish red and brownish yellow loam that has black iron and manganese masses
50 to 65 inches—red, reddish yellow, and brownish yellow loam that has black iron and manganese masses

Poindexter

0 to 7 inches—dark grayish brown gravelly silt loam
7 to 21 inches—dark yellowish brown silt loam that has olive brown lithochromic masses
21 to 30 inches—variegated dark yellowish brown, greenish gray, olive brown, and grayish green silt loam
30 to 51 inches—variegated dark yellowish brown, greenish gray, olive brown, and grayish green weathered hornblende gneiss that crushes to gravelly silt loam
51 inches—hard hornblende gneiss bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

16B—Nason gravelly loam, 2 to 7 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Summits and shoulders
Parent material: Residuum from sericite schist
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Nason soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Manteo soils, which are somewhat excessively drained and in landscape positions similar to those of the Nason soil
• Soils that are moderately deep to sericite schist bedrock

Similar:
• Mattaponi soils, which are moderately well drained and in landscape positions similar to those of the Nason soil
• Tatum soils, which are well drained, have redder colors than the Nason soil, and are in similar landscape positions

Typical Profile

0 to 4 inches—dark grayish brown gravelly loam
4 to 12 inches—yellowish brown gravelly loam
12 to 45 inches—strong brown clay that has red lithochromic masses
45 to 63 inches—strong brown, reddish brown, and reddish yellow weathered sericite schist that crushes to silt loam
63 inches—hard sericite schist bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

17B—Nason-Manteo complex, 2 to 7 percent slopes

Setting

Drainage class: Nason—well drained; Manteo—somewhat excessively drained
Landform: Uplands
Landscape position: Areas intermingled on summits and shoulders
Parent material: Residuum from sericite schist
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Nason soil and similar components: 45 to 55 percent
Manteo soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Mattaponi soils, which are moderately well drained and in landscape positions similar to those of the Nason and Manteo soils

Similar:
• Tatum soils, which are well drained, have redder colors than the Nason and Manteo soils, and are in similar landscape positions

• Soils that are moderately deep to sericite schist bedrock

Typical Profile

Nason

0 to 4 inches—dark grayish brown gravelly loam
4 to 12 inches—yellowish brown gravelly loam
12 to 45 inches—strong brown clay that has red lithochromic masses
45 to 63 inches—strong brown, reddish brown, and reddish yellow weathered sericite schist that crushes to silt loam
63 inches—hard sericite schist bedrock

Manteo

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

17C—Nason-Manteo complex, 7 to 15 percent slopes

Setting

Drainage class: Nason—well drained; Manteo—somewhat excessively drained
Landform: Uplands
Landscape position: Areas intermingled on shoulders and back slopes
Parent material: Residuum from sericite schist
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Nason soil and similar components: 45 to 55 percent
Manteo soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Mattaponi soils, which are moderately well drained and in landscape positions similar to those of the Nason and Manteo soils

Similar:
• Tatum soils, which are well drained, have redder colors than the Nason and Manteo soils, and are in similar landscape positions
• Soils that are moderately deep to sericite schist bedrock

Typical Profile

Nason

0 to 4 inches—dark grayish brown gravelly loam
4 to 12 inches—yellowish brown gravelly loam
12 to 45 inches—strong brown clay that has red lithochromic masses
45 to 63 inches—strong brown, reddish brown, and reddish yellow weathered sericite schist that crushes to silt loam
63 inches—hard sericite schist bedrock

Manteo

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

17D—Nason-Manteo complex, 15 to 25 percent slopes

Setting

Drainage class: Nason—well drained; Manteo—somewhat excessively drained
Landform: Uplands
Landscape position: Areas intermingled on back slopes
Parent material: Residuum from sericite schist
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Nason soil and similar components: 45 to 55 percent

Manteo soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Mattaponi soils, which are moderately well drained and in landscape positions similar to those of the Nason and Manteo soils

Similar:
- Tatum soils, which are well drained, have redder colors than the Nason and Manteo soils, and are in similar landscape positions
- Soils that are moderately deep to sericite schist bedrock

Typical Profile

Nason

0 to 4 inches—dark grayish brown gravelly loam
4 to 12 inches—yellowish brown gravelly loam
12 to 45 inches—strong brown clay that has red lithochromic masses
45 to 63 inches—strong brown, reddish brown, and reddish yellow weathered sericite schist that crushes to silt loam
63 inches—hard sericite schist bedrock

Manteo

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

18B—Pacolet-Louisburg complex, 2 to 7 percent slopes

Setting

Drainage class: Pacolet—well drained; Louisburg—well drained to excessively drained
Landform: Uplands
Landscape position: Areas intermingled on summits and shoulders
Parent material: Residuum from felsic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 20 acres

Composition

Pacolet soil and similar components: 45 to 55 percent
Louisburg soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Pacolet and Louisburg soils

Similar:
- Cecil soils, which are well drained, have a solum more than 40 inches thick, have bedrock at a depth of more than 60 inches, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Manteo soils, which are somewhat excessively drained, are shallower to bedrock than the Pacolet and Louisburg soils, and are in similar landscape positions
- Mecklenburg soils, which are well drained, have higher base saturation than the Pacolet and Louisburg soils, and are in similar landscape positions
- Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Poindexter soils, which are well drained, have higher base saturation than the Pacolet and Louisburg soils, and are in similar landscape positions
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Wedowee soils, which are well drained, have yellower colors than the Pacolet and Louisburg soils, and are in similar landscape positions
- Soils that have felsic bedrock at a depth of 40 to 60 inches

Typical Profile

Pacolet

0 to 7 inches—brown sandy loam
7 to 23 inches—red clay
23 to 29 inches—red clay that has reddish yellow lithochromic masses
29 to 50 inches—yellowish red, red, and yellowish brown loam
50 to 64 inches—yellowish brown, strong brown, and red loam

Louisburg

0 to 4 inches—dark grayish brown gravelly coarse sandy loam
4 to 13 inches—yellowish brown gravelly coarse sandy loam
13 to 28 inches—60 percent brownish yellow gravelly sandy loam and 40 percent yellowish brown gravelly sandy clay loam
28 to 72 inches—brownish yellow and strong brown slightly weathered granite that crushes to gravelly coarse sandy loam

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

18C—Pacolet-Louisburg complex, 7 to 15 percent slopes

Setting

Drainage class: Pacolet—well drained; Louisburg—well drained to excessively drained
Landform: Uplands
Landscape position: Areas intermingled on shoulders and back slopes
Parent material: Residuum from felsic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Pacolet soil and similar components: 40 to 50 percent
Louisburg soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Pacolet and Louisburg soils
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Pacolet and Louisburg soils

Similar:
• Cecil soils, which are well drained, have a solum more than 40 inches thick, have bedrock at a depth of more than 60 inches, and are in landscape positions similar to those of the Pacolet and Louisburg soils
• Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Pacolet and Louisburg soils, and in similar landscape positions
• Mecklenburg soils, which are well drained, have higher base saturation than the Pacolet and Louisburg soils, and are in similar landscape positions
• Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Pacolet and Louisburg soils
• Poindexter soils, which are well drained, have higher base saturation than the Pacolet and Louisburg soils, and are in similar landscape positions
• Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Pacolet and Louisburg soils
• Wedowee soils, which are well drained, have yellower colors than the Pacolet and Louisburg soils, and are in similar landscape positions
• Soils that have felsic bedrock at a depth of 40 to 60 inches

Typical Profile

Pacolet

0 to 7 inches—brown sandy loam
7 to 23 inches—red clay
23 to 29 inches—red clay that has reddish yellow lithochromic masses
29 to 50 inches—yellowish red, red, and yellowish brown loam
50 to 64 inches—yellowish brown, strong brown, and red loam

Louisburg

0 to 4 inches—dark grayish brown gravelly coarse sandy loam
4 to 13 inches—yellowish brown gravelly coarse sandy loam

13 to 28 inches—60 percent brownish yellow gravelly sandy loam and 40 percent yellowish brown gravelly sandy clay loam
28 to 72 inches—brownish yellow and strong brown slightly weathered granite that crushes to gravelly coarse sandy loam

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

18D—Pacolet-Louisburg complex, 15 to 25 percent slopes

Setting

Drainage class: Pacolet—well drained; Louisburg—well drained to excessively drained
Landform: Uplands
Landscape position: Areas intermingled on back slopes
Parent material: Residuum from felsic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Pacolet soil and similar components: 40 to 55 percent
Louisburg soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Pacolet and Louisburg soils
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Pacolet and Louisburg soils

Similar:
• Cecil soils, which are well drained, have a solum more than 40 inches thick, have bedrock at a depth of more than 60 inches, and are in landscape positions similar to those of the Pacolet and Louisburg soils
• Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Pacolet and Louisburg soils, and in similar landscape positions
• Mecklenburg soils, which are well drained, have higher base saturation than the Pacolet and Louisburg soils, and are in similar landscape positions
• Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Pacolet and Louisburg soils
• Poindexter soils, which are well drained, have higher base saturation than the Pacolet and Louisburg soils, and are in similar landscape positions
• Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Pacolet and Louisburg soils
• Wedowee soils, which are well drained, have yellower colors than the Pacolet and Louisburg soils, and are in similar landscape positions
• Soils that have felsic bedrock at a depth of 40 to 60 inches

Typical Profile

Pacolet

0 to 7 inches—brown sandy loam
7 to 23 inches—red clay
23 to 29 inches—red clay that has reddish yellow lithochromic masses
29 to 50 inches—yellowish red, red, and yellowish brown loam
50 to 64 inches—yellowish brown, strong brown, and red loam

Louisburg

0 to 4 inches—dark grayish brown gravelly coarse sandy loam
4 to 13 inches—yellowish brown gravelly coarse sandy loam
13 to 28 inches—60 percent brownish yellow gravelly sandy loam and 40 percent yellowish brown gravelly sandy clay loam
28 to 72 inches—brownish yellow and strong brown slightly weathered granite that crushes to gravelly coarse sandy loam

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

19E—Poindexter gravelly silt loam, 25 to 60 percent slopes

Setting

Drainage class: Well drained

Landform: Uplands
Landscape position: Back slopes
Parent material: Residuum from mafic crystalline rock
Shape of areas: Long and winding
Size of areas: 5 to 200 acres

Composition

Poindexter soil and similar components: 80 to 90 percent
Dissimilar components: 10 to 20 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Iredell soils, which are moderately well drained and in landscape positions similar to those of the Poindexter soil
• Mecklenburg soils, which are well drained and in landscape positions similar to those of the Poindexter soil
• Rock outcrop in landscape positions similar to those of the Poindexter soil

Similar:
• Louisburg soils, which are well drained to excessively drained and in landscape positions similar to those of the Poindexter soil
• Manteo soils, which are somewhat excessively drained and in landscape positions similar to those of the Poindexter soil
• Wedowee soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Poindexter soil
• Soils that have stones on the surface and are in landscape positions similar to those of the Poindexter soil

Typical Profile

0 to 7 inches—dark grayish brown gravelly silt loam
7 to 21 inches—dark yellowish brown silt loam that has olive brown lithochromic masses
21 to 30 inches—variegated dark yellowish brown, greenish gray, olive brown, and grayish green silt loam
30 to 51 inches—variegated dark yellowish brown, greenish gray, olive brown, and grayish green weathered hornblende gneiss that crushes to gravelly silt loam
51 inches—hard hornblende gneiss bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

20A—Riverview loam, 0 to 2 percent slopes, occasionally flooded

Setting

Drainage class: Well drained
Landform: Flood plains (fig. 4)
Landscape position: High convex and linear areas adjacent to streams
Parent material: Recent alluvium
Shape of areas: Long and winding
Size of areas: 5 to 20 acres

Composition

Riverview soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Altavista soils, which are moderately well drained and in the higher, less flood-prone positions
• Chewacla soils, which are somewhat poorly drained and in the lower, more frequently flooded positions
• Wehadkee soils, which are poorly drained and in the lower, more frequently flooded positions

Similar:
• State soils, which are well drained and in the higher, less flood-prone positions

Typical Profile

0 to 6 inches—dark yellowish brown loam
6 to 18 inches—dark yellowish brown sandy clay loam
18 to 38 inches—dark yellowish brown sandy clay loam that has brown iron and manganese masses
38 to 65 inches—very pale brown sandy loam that has yellowish brown and black iron and manganese masses

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

21A—State loam, 0 to 2 percent slopes, rarely flooded

Setting

Drainage class: Well drained

Figure 4.—Flooding in an area of Riverview loam, 0 to 2 percent slopes, occasionally flooded.

Landform: Stream terraces
Landscape position: Terrace treads
Parent material: Recent alluvium
Shape of areas: Irregular
Size of areas: 5 to 20 acres

Composition

State soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
- Chewacla soils, which are somewhat poorly drained and in the lower, more flood-prone positions
- Riverview soils, which are well drained and in the lower, more flood-prone positions
- Wehadkee soils, which are poorly drained and in the lower, more flood-prone positions

Similar:
- Altavista soils, which are moderately well drained and in landscape positions similar to those of the State soil

Typical Profile

0 to 6 inches—dark yellowish brown loam
6 to 20 inches—strong brown sandy clay loam
20 to 38 inches—strong brown clay that has yellowish brown iron and manganese masses
38 to 65 inches—strong brown clay loam that has yellowish brown iron and manganese masses

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

22B—Tatum-Manteo complex, 2 to 7 percent slopes

Setting

Drainage class: Tatum—well drained; Manteo—somewhat excessively drained
Landform: Uplands
Landscape position: Areas intermingled on summits and shoulders
Parent material: Residuum from sericite schist
Shape of areas: Irregular
Size of areas: 5 to 20 acres

Composition

Tatum soil and similar components: 45 to 55 percent
Manteo soil and similar components: 30 to 40 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum and Manteo soils
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum and Manteo soils

Similar:
• Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Tatum and Manteo soils
• Nason soils, which are well drained, have yellower colors than the Tatum and Manteo soils, and are in similar landscape positions
• Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Tatum and Manteo soils
• Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Tatum and Manteo soils
• Turbeville soils, which are well drained, formed in alluvium, and are in landscape positions similar to those of the Tatum and Manteo soils
• Soils that are moderately deep to sericite schist bedrock

Typical Profile

Tatum

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 5 inches—yellowish brown silt loam
5 to 10 inches—strong brown silt loam
10 to 41 inches—red clay
41 to 60 inches—variegated light olive brown and reddish brown weathered sericite schist that crushes to loam

Manteo

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

22C—Tatum-Manteo complex, 7 to 15 percent slopes

Setting

Drainage class: Tatum—well drained; Manteo—somewhat excessively drained
Landform: Uplands
Landscape position: Areas intermingled on shoulders and back slopes
Parent material: Residuum from sericite schist
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Tatum soil and similar components: 45 to 55 percent
Manteo soil and similar components: 30 to 40 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum and Manteo soils

• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum and Manteo soils

Similar:
• Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Tatum and Manteo soils
• Nason soils, which are well drained, have yellower colors than the Tatum and Manteo soils, and are in similar landscape positions
• Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Tatum and Manteo soils
• Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Tatum and Manteo soils
• Turbeville soils, which are well drained, formed in alluvium, and are in landscape positions similar to those of the Tatum and Manteo soils
• Soils that are moderately deep to sericite schist bedrock

Typical Profile

Tatum

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 5 inches—yellowish brown silt loam
5 to 10 inches—strong brown silt loam
10 to 41 inches—red clay
41 to 60 inches—variegated light olive brown and reddish brown weathered sericite schist that crushes to loam

Manteo

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

22D—Tatum-Manteo complex, 15 to 25 percent slopes

Setting

Drainage class: Tatum—well drained; Manteo—somewhat excessively drained
Landform: Uplands
Landscape position: Areas intermingled on back slopes
Parent material: Residuum from sericite schist
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Tatum soil and similar components: 45 to 55 percent
Manteo soil and similar components: 30 to 40 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum and Manteo soils
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum and Manteo soils

Similar:
• Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Tatum and Manteo soils
• Nason soils, which are well drained, have yellower colors than the Tatum and Manteo soils, and are in similar landscape positions
• Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Tatum and Manteo soils
• Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Tatum and Manteo soils
• Turbeville soils, which are well drained, formed in alluvium, and are in landscape positions similar to those of the Tatum and Manteo soils

• Soils that are moderately deep to sericite schist bedrock

Typical Profile

Tatum

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 5 inches—yellowish brown silt loam
5 to 10 inches—strong brown silt loam
10 to 41 inches—red clay
41 to 60 inches—variegated light olive brown and reddish brown weathered sericite schist that crushes to loam

Manteo

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 2 inches—dark yellowish brown very channery loam
2 to 7 inches—yellowish brown very channery loam
7 to 14 inches—brown very channery clay loam that has dark grayish brown clay flows in old rock fractures
14 inches—hard sericite schist bedrock

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

23B—Tatum silt loam, 2 to 7 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Summits and shoulders
Parent material: Residuum from sericite schist
Shape of areas: Irregular
Size of areas: 5 to 500 acres

Composition

Tatum soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum soil
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum soil
• Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Tatum soil
• Soils that are moderately deep to sericite schist bedrock

Similar:
• Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Tatum soil
• Nason soils, which are well drained, have yellower colors than the Tatum soil, and are in similar landscape positions
• Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Tatum soil
• Turbeville soils, which are well drained, formed in alluvium, and are in landscape positions similar to those of the Tatum soil

Typical Profile

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 5 inches—yellowish brown silt loam
5 to 10 inches—strong brown silt loam
10 to 41 inches—red clay
41 to 60 inches—variegated light olive brown and reddish brown weathered sericite schist that crushes to loam

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

24B—Turbeville loam, 2 to 7 percent slopes

Setting

Drainage class: Well drained
Landform: High stream terraces
Landscape position: Terrace treads
Parent material: Old alluvium
Shape of areas: Irregular
Size of areas: 5 to 30 acres

Composition

Turbeville soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Turbeville soil
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Turbeville soil, and in similar landscape positions
• Poindexter soils, which are well drained, shallower to bedrock than the Turbeville soil, and in similar landscape positions

Similar:
• Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Turbeville soil
• Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Turbeville soil
• Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Turbeville soil
• Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Turbeville soil
• Soils that have a subsoil that is yellower than that of the Turbeville soil

Typical Profile

0 to 4 inches—dark brown loam
4 to 65 inches—red clay that has black soft masses

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

24C—Turbeville loam, 7 to 15 percent slopes

Setting

Drainage class: Well drained
Landform: High stream terraces
Landscape position: Terrace risers (fig. 5)
Parent material: Old alluvium
Shape of areas: Irregular
Size of areas: 5 to 20 acres

Composition

Turbeville soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Turbeville soil
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Turbeville soil, and in similar landscape positions
• Poindexter soils, which are well drained, shallower to bedrock than the Turbeville soil, and in similar landscape positions

Similar:
• Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Turbeville soil
• Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Turbeville soil
• Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Turbeville soil
• Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Turbeville soil
• Soils that have a subsoil that is yellower than that of the Turbeville soil

Typical Profile

0 to 4 inches—dark brown loam
4 to 65 inches—red clay that has black soft masses

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

Figure 5.—Pasture in an area of Turbeville loam, 7 to 15 percent slopes, is in the foreground. An area of Altavista loam, 0 to 2 percent slopes, occasionally flooded, is in the background.

25B—Turbeville-Tatum complex, 2 to 7 percent slopes

Setting

Drainage class: Well drained
Landform: Turbeville—high terraces; Tatum—uplands
Landscape position: Areas intermingled on summits and shoulders
Parent material: Turbeville—old alluvium; Tatum—residuum from sericite schist
Shape of areas: Irregular
Size of areas: 5 to 20 acres

Composition

Turbeville soil and similar components: 45 to 55 percent
Tatum soil and similar components: 30 to 40 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Turbeville and Tatum soils, and in similar landscape positions

Similar:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Turbeville and Tatum soils

• Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Turbeville and Tatum soils
• Poindexter soils, which are well drained, shallower to bedrock than the Turbeville and Tatum soils, and in similar landscape positions
• Alluvial soils that have a yellower subsoil than the Turbeville and Tatum soils and are in similar landscape positions

Typical Profile

Turbeville

0 to 4 inches—dark brown loam
4 to 65 inches—red clay that has black soft masses

Tatum

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 5 inches—yellowish brown silt loam
5 to 10 inches—strong brown silt loam
10 to 41 inches—red clay
41 to 60 inches—variegated light olive brown and reddish brown weathered sericite schist that crushes to loam

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

25C—Turbeville-Tatum complex, 7 to 15 percent slopes

Setting

Drainage class: Well drained
Landform: Turbeville—high terraces; Tatum—uplands
Landscape position: Areas intermingled on shoulders and back slopes
Parent material: Turbeville—old alluvium; Tatum—residuum from sericite schist
Shape of areas: Irregular
Size of areas: 5 to 20 acres

Composition

Turbeville soil and similar components: 45 to 55 percent
Tatum soil and similar components: 30 to 40 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Turbeville and Tatum soils, and in similar landscape positions

Similar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Turbeville and Tatum soils
• Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Turbeville and Tatum soils
• Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Turbeville and Tatum soils
• Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Turbeville and Tatum soils
• Poindexter soils, which are well drained, shallower to bedrock than the Turbeville and Tatum soils, and in similar landscape positions
• Alluvial soils that have a yellower subsoil than the Turbeville and Tatum soils and are in similar landscape positions

Typical Profile

Turbeville

0 to 4 inches—dark brown loam
4 to 65 inches—red clay that has black soft masses

Tatum

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 5 inches—yellowish brown silt loam
5 to 10 inches—strong brown silt loam
10 to 41 inches—red clay
41 to 60 inches—variegated light olive brown and reddish brown weathered sericite schist that crushes to loam

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

25D—Turbeville-Tatum complex, 15 to 25 percent slopes

Setting

Drainage class: Well drained
Landform: Turbeville—high terraces; Tatum—uplands
Landscape position: Areas intermingled on back slopes
Parent material: Turbeville—old alluvium; Tatum—residuum from sericite schist
Shape of areas: Long and winding
Size of areas: 5 to 20 acres

Composition

Turbeville soil and similar components: 40 to 50 percent
Tatum soil and similar components: 35 to 45 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Turbeville and Tatum soils, and in similar landscape positions

Similar:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Poindexter soils, which are well drained, shallower to bedrock than the Turbeville and Tatum soils, and in similar landscape positions
- Alluvial soils that have a yellower subsoil than the Turbeville and Tatum soils and that are in similar landscape positions

Typical Profile

Turbeville

0 to 4 inches—dark brown loam
4 to 65 inches—red clay that has black soft masses

Tatum

2 inches to 0—undecomposed and partially decomposed leaves and twigs
0 to 5 inches—yellowish brown silt loam
5 to 10 inches—strong brown silt loam
10 to 41 inches—red clay
41 to 60 inches—variegated light olive brown and reddish brown weathered sericite schist that crushes to loam

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

26—Udorthents-Urban land complex, 0 to 15 percent slopes

Setting

Drainage class: Moderately well drained or well drained
Landform: Uplands
Landscape position: Primarily summits and shoulders
Parent material: Udorthents—alluvium, colluvium, or residuum; Urban land—not applicable
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Udorthents: 45 to 55 percent
Urban land: 30 to 40 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
- Undisturbed soils
- Areas consisting of nonsoil materials, such as concrete, wood, glass, and asphalt

Typical Profile

Udorthents

Udorthents are deep or very deep, well drained or somewhat excessively drained, nearly level to very steep, loamy and clayey soils. These soils are mainly

on summits and side slopes in the uplands. They mostly consist of overburden and waste rock that have been stockpiled during quarrying or mining and soil material that has been cut and filled during road or building construction. These soils occur in or near quarries and mines, along highways, and near large buildings. Slope ranges from 0 to 45 percent. Because of the variability of these soils, a typical pedon is not given.

Urban land

Urban land consists of areas of roads, commercial buildings, industries, schools, churches, parking lots, streets, and shopping centers.

27B—Wedowee sandy loam, 2 to 7 percent slopes

Setting

Drainage class: Well drained
Landform: Uplands
Landscape position: Summits and shoulders
Parent material: Residuum from felsic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Wedowee soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Wedowee soil
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Iredell soils, which are moderately well drained, have more clay in the subsoil than the Wedowee soil, and are in similar landscape positions
• Louisburg soils, which are well drained to excessively drained, shallower to bedrock than the Wedowee soil, and in similar landscape positions
• Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Wedowee soil
• Poindexter soils, which are well drained, shallower to bedrock than the Wedowee soil, and in similar landscape positions

Similar:
• Cecil soils, which are well drained, have a solum that is thicker and redder than that of the Wedowee soil, and are in similar landscape positions
• Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Wedowee soil
• Pacolet soils, which are well drained, have redder colors than the Wedowee soil, and are in similar landscape positions

Typical Profile

0 to 7 inches—yellowish brown and brown sandy loam
7 to 25 inches—yellowish brown and brownish yellow clay loam
25 to 47 inches—yellowish brown, brownish yellow, and yellowish red sandy clay loam
47 to 65 inches—yellowish brown, brownish yellow, very pale brown, and yellowish red sandy clay loam

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

28C—Wedowee-Louisburg complex, 7 to 15 percent slopes

Setting

Drainage class: Wedowee—well drained; Louisburg—well drained to excessively drained
Landform: Uplands
Landscape position: Areas intermingled on shoulders and back slopes
Parent material: Residuum from felsic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Wedowee soil and similar components: 40 to 50 percent
Louisburg soil and similar components: 30 to 40 percent
Dissimilar components: 10 to 20 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are

in landscape positions similar to those of the Wedowee and Louisburg soils
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Iredell soils, which are moderately well drained, have more clay in the subsoil than the Wedowee and Louisburg soils, and are in similar landscape positions
• Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Wedowee and Louisburg soils

Similar:
• Cecil soils, which are well drained, have a solum that is thicker and redder than that of the Wedowee and Louisburg soils, and are in similar landscape positions
• Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Wedowee and Louisburg soils
• Pacolet soils, which are well drained, have redder colors than the Wedowee and Louisburg soils, and are in similar landscape positions
• Poindexter soils, which are well drained, shallower to bedrock than the Wedowee and Louisburg soils, and in similar landscape positions

Typical Profile

Wedowee

0 to 7 inches—yellowish brown and brown sandy loam
7 to 25 inches—yellowish brown and brownish yellow clay loam
25 to 47 inches—yellowish brown, brownish yellow, and yellowish red sandy clay loam
47 to 65 inches—yellowish brown, brownish yellow, very pale brown, and yellowish red sandy clay loam

Louisburg

0 to 4 inches—dark grayish brown gravelly coarse sandy loam
4 to 13 inches—yellowish brown gravelly coarse sandy loam
13 to 28 inches—60 percent brownish yellow gravelly sandy loam and 40 percent yellowish brown gravelly sandy clay loam
28 to 72 inches—brownish yellow and strong brown slightly weathered granite that crushes to gravelly coarse sandy loam

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

28D—Wedowee-Louisburg complex, 15 to 25 percent slopes

Setting

Drainage class: Wedowee—well drained; Louisburg—well drained to excessively drained
Landform: Uplands
Landscape position: Areas intermingled on back slopes
Parent material: Residuum from felsic crystalline rock
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Wedowee soil and similar components: 40 to 50 percent
Louisburg soil and similar components: 30 to 40 percent
Dissimilar components: 10 to 20 percent

Minor Components

Dissimilar:
• Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Wedowee and Louisburg soils
• Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
• Iredell soils, which are moderately well drained, have more clay in the subsoil than the Wedowee and Louisburg soils, and are in similar landscape positions
• Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Wedowee and Louisburg soils

Similar:
• Cecil soils, which are well drained, have a solum that is thicker and redder than that of the Wedowee and Louisburg soils, and are in similar landscape positions
• Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Wedowee and Louisburg soils
• Pacolet soils, which are well drained, have redder colors than the Wedowee and Louisburg soils, and are in similar landscape positions
• Poindexter soils, which are well drained, shallower to bedrock than the Wedowee and Louisburg soils, and in similar landscape positions

Typical Profile

Wedowee

0 to 7 inches—yellowish brown and brown sandy loam
7 to 25 inches—yellowish brown and brownish yellow clay loam
25 to 47 inches—yellowish brown, brownish yellow, and yellowish red sandy clay loam
47 to 65 inches—yellowish brown, brownish yellow, very pale brown, and yellowish red sandy clay loam

Louisburg

0 to 4 inches—dark grayish brown gravelly coarse sandy loam
4 to 13 inches—yellowish brown gravelly coarse sandy loam
13 to 28 inches—60 percent brownish yellow gravelly sandy loam and 40 percent yellowish brown gravelly sandy clay loam
28 to 72 inches—brownish yellow and strong brown slightly weathered granite that crushes to gravelly coarse sandy loam

Additional information specific to the soils in this map unit is available in the section "Soil Properties." For general and detailed information about managing the map unit, refer to the section "Use and Management of the Soils."

29A—Wehadkee loam, 0 to 2 percent slopes, frequently flooded

Setting

Drainage class: Poorly drained
Landform: Flood plains
Landscape position: Low, concave backwater areas of larger streams and low linear areas adjacent to smaller streams
Parent material: Recent alluvium
Shape of areas: Long and winding
Size of areas: 5 to 20 acres

Composition

Wehadkee soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Altavista soils, which are moderately well drained and in the higher, less flood-prone positions
• Riverview soils, which are well drained and in convex positions

Similar:
• Chewacla soils, which are somewhat poorly drained and in landscape positions similar to those of the Wehadkee soil
• Soils that have 15 to 25 percent gravel in the subsoil
• Soils that have heavier textures than the Wehadkee soil

Typical Profile

0 to 6 inches—grayish brown loam
6 to 14 inches—light brownish gray loam that has light yellowish brown and yellowish red iron and manganese masses
14 to 25 inches—light olive gray loam that has yellowish red and yellowish brown iron and manganese masses
25 to 45 inches—light gray loam that has yellowish red and brownish yellow iron and manganese masses
45 to 74 inches—light gray, gray, and yellowish brown sandy loam (gray areas are iron and manganese depletions, and brown areas are iron and manganese masses)

Additional information specific to the soils in this map unit is available in the section "Soil Properties." For general and detailed information about managing the map unit, refer to the section "Use and Management of the Soils."

30A—Wingina loam, 0 to 2 percent slopes, occasionally flooded

Setting

Drainage class: Well drained
Landform: Flood plains of the James River
Landscape position: Higher convex or linear areas
Parent material: Recent alluvium
Shape of areas: Long and winding
Size of areas: 5 to 20 acres

Composition

Wingina soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Altavista soils, which are moderately well drained and in the higher, less flood-prone positions
• Yogaville soils, which are poorly drained and in the concave backwater positions

Similar:
• Batteau soils, which are moderately well drained and in landscape positions similar to those of the Wingina soil

Typical Profile

0 to 14 inches—very dark grayish brown loam
14 to 72 inches—brown loam

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

31A—Yogaville loam, 0 to 2 percent slopes, frequently flooded

Setting

Drainage class: Poorly drained
Landform: Flood plains of the James River
Landscape position: Low concave backwater areas
Parent material: Recent alluvium
Shape of areas: Long and winding
Size of areas: 5 to 20 acres

Composition

Yogaville soil and similar components: 85 to 95 percent
Dissimilar components: 5 to 15 percent

Minor Components

Dissimilar:
• Wingina soils, which are well drained and in convex positions
• Batteau soils, which are moderately well drained and in convex or linear areas

Similar:
• Wehadkee soils, which have a lower base saturation that the Yogaville soil

Typical Profile

0 to 14 inches—very dark grayish brown loam
14 to 32 inches—light gray clay loam that has light yellowish brown and yellowish red iron and manganese masses
32 to 55 inches—gray and yellowish brown silt loam (gray areas are iron and manganese depletions, and brown areas are iron and manganese masses)
55 to 72 inches—gray and yellowish brown loam (gray areas are iron and manganese depletions, and brown areas are iron and manganese masses)

Additional information specific to the soils in this map unit is available in the section “Soil Properties.” For general and detailed information about managing the map unit, refer to the section “Use and Management of the Soils.”

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis for predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Generally, the soils in Appomattox County that are well suited to crops are also well suited to urban uses. The data concerning specific soils in the county can be used in planning future land use patterns. The potential for farming should be considered relative to any soil limitations and the potential for nonfarm development.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils are identified, the system of land capability classification used by the Natural Resources Conservation Service is explained, the estimated yields of the main crops and hay and pasture plants are listed for each soil, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the tables. Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Federal and State regulations require that any area designated as wetlands cannot be altered without prior approval. Contact the local office of the Natural Resources Conservation Service for identification of hydric soils and potential wetlands.

According to the 1987 Census of Agriculture Advance County Report, Appomattox County has about 36,600 acres of cropland. This total consists of about 3,500 acres of row crops, such as corn, and 33,100 acres of hay and pasture. The acreage of cultivated crops has been gradually decreasing. The size of farms, however, has been increasing.

Soil erosion is the major concern on most of the soils used for cropland in Appomattox County. Most of the soils in the county, except for soils on flood plains and some low stream terraces, have slopes of more than 2 percent and thus have a moderate or severe hazard of erosion.

Loss of the surface layer through erosion is damaging. It reduces the organic matter content, the water-holding capacity, and soil fertility. The soil's potential productivity decreases, and seedbed preparation becomes difficult. Erosion also results in the sedimentation of streams and lakes, which lowers the quality of water for fish and wildlife.

Erosion is especially damaging on soils that have a clayey subsoil and on soils that have bedrock near the surface. For example, erosion of the surface layer on Appomattox, Cullen, and Cecil soils exposes a clayey

subsoil which is less productive than the original surface layer and more difficult to till. On Louisburg, Manteo, and Poindexter soils, erosion exposes less productive soil material and also decreases the amount of productive soil material between the surface and bedrock.

Erosion-control practices provide a protective surface cover, reduce runoff, and increase the rate of water infiltration. A cropping system that keeps a vegetative cover on the soil for extended periods helps to minimizes soil loss and maintain the productive capacity of the soil. A conservation cropping system that consists of rotations of hay or pasture crops and row crops reduces the hazard of erosion, increases the organic matter content of the surface layer, increases fertility and the available water capacity, and improves tilth.

Using sod in waterways and practicing contour tillage are common erosion-control practices in the survey area. They are suited to most areas of Appomattox, Beckham, Cecil, Cullen, Iredell, Louisburg, Manteo, Mattaponi, Mecklenburg, Nason, Pacolet, Poindexter, Tatum, Turbeville, and Wedowee soils. Conservation tillage, winter cover crops, and crop residue left on the surface help to reduce runoff rates and increase infiltration. These practices are suitable for most of the soils in the county but are more difficult to use in severely eroded areas than in areas having little or no erosion.

Fertility is low in most of the soils in the county, and reaction in most unlimed areas is strongly acid or very strongly acid. Applications of lime and fertilizer are needed for crop production on most of the soils.

Drainage is needed on a small acreage of cropland in the county. Wehadkee and Chewacla soils are so wet that they require subsurface drainage to produce the crops commonly grown in the county. Iredell and Mecklenburg soils commonly remain wet through spring, and clods form on the surface if these soils are plowed when wet. The type of drainage system needed varies according to the type of soil being drained. Subsurface drainage lines generally are needed for slowly permeable soils.

Field crops suited to the soils and climate of the survey area are corn, soybeans, wheat, rye, barley, and oats. The major plants grown and harvested for hay are Kentucky-31 fescue, orchardgrass, ryegrass, red clover, and alfalfa.

Pastures consist of tall fescue, orchardgrass, and clover. The common pasture management practices are weed control, the use of proper stocking rates, rotational grazing, restriction of grazing when the soils are wet, and applications of lime and fertilizer.

The main specialty crops grown in the county are apples, peaches, nectarines, grapes, vegetables, strawberries, and nursery plants. Most of the deep, well drained, upland soils are suited to these specialty crops. Good air drainage is essential for fruits and early season vegetables.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of each map unit also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

A high level of management includes maintaining proper soil reaction and fertility levels as indicated by standard soil tests. The application rate of nitrogen for corn on soils that have a yield potential of 125 to 150 bushels per acre should be 140 to 160 pounds per acre. If the yield potential for corn is 100 bushels per acre or less, a rate of 100 to 120 pounds of nitrogen per acre should be used. The application of nitrogen in excess of that required for potential yields generally is not recommended. The excess nitrogen fertilizer that is not utilized by the crop is an unnecessary expense and causes a hazard of water pollution. If corn or cotton is grown after the harvest of soybeans or peanuts, nitrogen rates can be reduced by about 20 to 30 pounds per acre. Because nitrogen can be readily leached from sandy soils, applications may be needed on these soils more than once during the growing season.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is

developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland and for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, IIe. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w, s,* or *c* because the soils in class V are subject to little or no erosion. They have other limitations that restrict their use to pasture, woodland, wildlife habitat, or recreation.

The capability classification of each map unit is given in the yields table.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forest land, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. The slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is

available at the local office of the Natural Resources Conservation Service.

About 80,700 acres in the survey area, or nearly 35 percent of the total acreage, meets the soil requirements for prime farmland. Scattered areas of this land are throughout the county, but most are in the southeastern part.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 6. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures used to overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading “Detailed Soil Map Units.”

Woodland Management and Productivity

Table 7 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed. The table lists the ordination symbol for each soil. Soils assigned the same ordination symbol require the same general management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for an indicator tree species. The number indicates the volume, in cubic meters per hectare per year, which the indicator species can produce in a pure stand under natural conditions. The number 1 indicates low potential productivity; 2 or 3, moderate; 4 or 5, moderately high; 6 to 8, high; 9 to 11, very high; and 12 to 39, extremely high. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *R* indicates steep slopes; *X*, stoniness or rockiness; *W*, excess water in or on the soil; *T*, toxic substances in the soil; *D*, restricted rooting depth; *C*, clay in the upper part of the soil; *S*, sandy texture; *F*, a high content of rock fragments in the soil; *L*, low strength; and *N*, snowpack. The letter *A* indicates that limitations or restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: R, X, W, T, D, C, S, F, L, and N.

In table 7, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Erosion hazard is the probability that damage will occur as a result of site preparation and cutting where the soil is exposed along roads, skid trails, and fire lanes and in log-handling areas. Forests that have been burned or overgrazed are also subject to erosion. Ratings of the erosion hazard are based on the percent of the slope. A rating of *slight* indicates that no particular prevention measures are needed under ordinary conditions. A rating of *moderate* indicates that erosion-control measures are needed in certain silvicultural activities. A rating of *severe* indicates that special precautions are needed to control erosion in most silvicultural activities.

Equipment limitation reflects the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. The chief characteristics and conditions considered in the ratings are slope, stones on the surface, rock outcrops, soil wetness, and texture of the surface layer. A rating of *slight* indicates that under normal conditions the kind of equipment and season of use are not significantly restricted by soil factors. Soil wetness can restrict equipment use, but the wet period does not exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If the soil is wet, the wetness restricts equipment use for a period of 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either as to the kind of equipment that can be used or the season of use. If the soil is wet, the wetness restricts equipment use for more than 3 months.

Seedling mortality refers to the death of naturally occurring or planted tree seedlings, as influenced by the kinds of soil, soil wetness, or topographic conditions. The factors used in rating the soils for seedling mortality are texture of the surface layer, depth to a high water table and the length of the period when the water table is high, rock fragments in the surface layer, effective rooting depth, and slope aspect. A rating of *slight* indicates that seedling mortality is not likely to be a problem under normal conditions. Expected mortality is less than 25 percent. A rating of *moderate* indicates that some problems from seedling mortality can be expected. Extra precautions are advisable. Expected mortality is 25 to 50 percent. A rating of *severe* indicates that seedling mortality is a serious problem. Extra precautions are

important. Replanting may be necessary. Expected mortality is more than 50 percent.

Windthrow hazard is the likelihood that trees will be uprooted by the wind because the soil is not deep enough for adequate root anchorage. The main restrictions that affect rooting are a high water table and the depth to bedrock, a fragipan, or other limiting layers. A rating of *slight* indicates that under normal conditions no trees are blown down by the wind. Strong winds may damage trees, but they do not uproot them. A rating of *moderate* indicates that some trees can be blown down during periods when the soil is wet and winds are moderate or strong. A rating of *severe* indicates that many trees can be blown down during these periods.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index* and as a *productivity class*. The site index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

The *productivity class* indicates the yield likely to be produced by the most important trees. This number, expressed as cubic meters per hectare per year, indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

The first species listed under *common trees* for a soil is the indicator species for that soil. It generally is the most common species on the soil and is the one that determines the ordination class.

Trees to plant are those that are suitable for commercial wood production.

Recreation

The James and Appomattox Rivers provide many recreational opportunities, including boating, fishing, swimming, and hunting. Several public boat landings are located along the James River. The Appomattox Courthouse National Historical Park and the Holliday Lake State Park are also available to the public for recreational opportunities. Several private camping facilities are located throughout the county. The County Department of Parks and Recreation organizes and provides facilities for athletic and recreational activities.

The soils of the survey area are rated in table 8 according to the limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In table 8, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or a combination of these measures.

The information in table 8 can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 13 and interpretations for dwellings without basements and for local roads and streets in table 10.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have gentle slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the period of use. The surface is free of stones and boulders, is

firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock should be considered.

Paths and trails for hiking and horseback riding should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 9, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat. The ratings in table 9 are intended to be used as a guide and are not site specific. Onsite investigation is needed for individual management plans.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian-olive, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction,

salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and black bear.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Table 10 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally

favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock or a very firm, dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and depth to the high water table.

Dwellings and *small commercial buildings* are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrinking and swelling, and organic layers can cause the movement of footings. Depth to a high water table, depth to bedrock, large stones, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 or 6 feet are not considered.

Table 11 lists general corrective measures for limitations affecting dwellings. The listed measures are not recommendations but may help to reduce the limitations.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or stabilized soil material; and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock, depth to a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost action potential, and depth to a high water table affect the traffic-supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, depth to a high water table, depth to bedrock, and the available water capacity in the upper 40 inches affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established. Soil tests are essential to determine liming and fertilizer needs. Help in making soil tests or in deciding what soil additive, if any, should be used can be obtained from the office of the Robert E. Lee Soil and Water Conservation District or the local office of the Cooperative Extension Service.

Table 12 lists general corrective measures for limitations affecting lawns and landscaping. The listed measures are not recommendations but may help to reduce the limitations.

Sanitary Facilities

Table 13 shows the degree and the kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

Table 13 also shows the suitability of the soils for use as daily cover for landfill. A rating of *good* indicates that soil properties and site features are favorable for the use and that good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil

through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, depth to a high water table, depth to bedrock, and flooding affect absorption of the effluent. Large stones and bedrock interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to filter the effluent effectively. Many local ordinances require that this material be of a certain thickness.

Table 14 lists general corrective measures for limitations affecting septic tank absorption fields. The listed measures are not recommendations but may help to reduce the limitations.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. The animal waste lagoons commonly used in farming operations are not considered in the ratings. They are generally deeper than the lagoons referred to in table 13 and rely on anaerobic bacteria to decompose waste materials.

Table 13 gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, depth to a high water table, depth to bedrock, flooding, large stones, and content of organic matter.

Excessive seepage resulting from rapid permeability in the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope or bedrock can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground-water pollution. Ease of excavation and revegetation should be considered.

The ratings in table 13 are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock, a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium affect trench landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness, coarse fragments, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to soil blowing.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

Construction Materials

Table 15 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a *probable* or *improbable* source of sand and gravel. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard

construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help to determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, a low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the high water table is more than 3 feet. Soils rated *fair* have more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have a moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the high water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet and have a high water table at a depth of less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing (fig. 6). They are used in many kinds of construction. Specifications for each use vary widely. In table 15, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale, siltstone, and weathered granite saprolite, are not considered to be sand and gravel.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a high water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a high water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable, loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are naturally fertile or respond well to fertilizer and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel or stones, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel or stones, have slopes of more than 15 percent, or have a high water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 16 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas and for embankments, dikes, and

Figure 6.—Gravel exposed in a roadcut through Appomattox soil in an area of Appomattox-Cullen complex, 7 to 15 percent slopes.

levees. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives the restrictive features that affect each soil for drainage, irrigation, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area. Ponds that are less than about 2 acres in size are not shown on the maps because of the scale of mapping.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings

apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, mica, or salts or sodium. Depth to a high water table affects the amount of usable material. It also affects trafficability.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock or to other layers that affect the rate of water movement, permeability, depth to a high water table or depth of standing water if the soil is subject to ponding, slope, susceptibility to flooding, subsidence of organic layers, and the potential for frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. Availability of drainage outlets is not considered in the ratings.

Drainage may be a major management consideration in some areas. Management of drainage in conformance with regulations concerning wetlands may require special permits and extra planning. The local office of the Natural Resources Conservation Service should be contacted for identification of hydric soils and potential wetlands.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to a high water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock. The performance of a system is affected by the availability of suitable irrigation water, the depth of the root zone, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of soil blowing or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. A hazard of soil blowing, a low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

Engineering Index Properties

Table 17 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under the heading “Soil Series and Their Morphology.”

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages, by weight, of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as 15 percent, by volume, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system *(2)* and the system adopted by the American Association of State Highway and Transportation Officials *(1)*.

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20, or higher, for the poorest.

Rock fragments 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3

inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

Physical and Chemical Properties

Table 18 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Clay as a soil separate, or component, consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence the shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$-bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of movement of water through the soil when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage in each major soil layer is stated in inches of water per inch of soil. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time. It is the difference between the amount of soil water at field moisture capacity and the amount at wilting point.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The classes are *low*, a change of less than 3 percent;

moderate, 3 to 6 percent; *high*, 6 to 9 percent; and *very high*, more than 9 percent.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion. Losses are expressed in tons per acre per year. These estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.02 to 0.64. The higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur over a sustained period without affecting crop productivity. The rate is expressed in tons per acre per year.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 18, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Soil and Water Features

Table 19 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are used to estimate runoff from precipitation. Soils are assigned to one of four groups. They are grouped according to the infiltration of water when the soils are thoroughly wet and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep or very deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep to very deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to two hydrologic groups in table 19, the first letter is for drained areas and the second is for undrained areas.

Flooding, the temporary covering of the soil surface by flowing water, is caused by overflowing streams, by runoff from adjacent slopes, or by inflow from high tides. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. Standing water in swamps and marshes or in a closed depression is considered ponding.

Table 19 gives the frequency and duration of flooding and the time of year when flooding is most likely to occur.

Frequency, duration, and probable dates of occurrence are estimated. Frequency generally is expressed as none, rare, occasional, or frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of flooding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of flooding is more than 50 percent in any year). *Common* is used when occasional and frequent classes are grouped for certain purposes. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 days to 1 month, and *very long* if more than 1 month. Probable dates are expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered is local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a

saturated zone in the soil in most years. The estimates are based mainly on the evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. Indicated in table 19 are the depth to the high water table; the kind of water table—that is, *perched* or *apparent*; and the months of the year that the water table commonly is high. A water table that is seasonally high for less than 1 month is not indicated in table 19.

An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Two numbers in the column showing depth to the high water table indicate the normal range in depth to a saturated zone. Depth is given to the nearest half foot. The first numeral in the range indicates the highest water level. "More than 6.0" indicates that the water table is below a depth of 6 feet or that it is within a depth of 6 feet for less than a month.

Depth to bedrock is given if bedrock is within a depth of 5 feet. The depth is based on many soil borings and on observations during soil mapping. The rock is specified as either soft or hard. If the rock is soft or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavation.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and the amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories *(3)*. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or on laboratory measurements. Table 20 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Eleven soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Ultisol.

SUBORDER. Each order is divided into suborders, primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udult (*Ud*, meaning humid climate, plus *ult*, from Ultisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludults (*Hapl*, meaning minimal horizon development, plus *udult*, the suborder of the Ultisols that occurs in humid climates).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludults.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, depth of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is clayey, mixed, thermic Typic Hapludults.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. There can be some variation in the texture of the surface layer or of the substratum within a series.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The location of the typical pedon is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" *(4)*. Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" *(3)*. Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed Soil Map Units."

Altavista Series

Depth class: Very deep (fig. 7)
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Recent alluvium
Landform: Stream terraces
Slope range: 0 to 2 percent

Associated Soils

- Batteau soils, which have thick, dark surface layers, have a subsoil that is less developed than that of the Altavista soils, and are in positions on adjacent flood plains
- Chewacla soils, which have gray iron and manganese depletions in the upper part of the subsoil and are in slight depressions on adjacent flood plains
- Riverview soils, which have a subsoil that is less developed than that of the Altavista soils and are in positions on adjacent flood plains
- State soils, which do not have redoximorphic features in the lower part of the subsoil and are in landscape positions similar to those of the Altavista soils
- Wingina soils, which have thick, dark surface layers, have a subsoil that is less developed than that of the Altavista soils, and are in positions on adjacent flood plains
- Yogaville soils, which have thick dark surface layers and a gray subsoil and are in positions on adjacent flood plains

Typical Pedon

Altavista loam, 0 to 2 percent slopes, occasionally flooded; in an area of pasture, 1.5 miles north-northwest (342 degrees) of the junction of Highways VA-639 and VA-627 and 1.4 miles east-northeast (82 degrees) of the junction of Highways VA-632 and VA-627:

Ap—0 to 6 inches; yellowish brown (10YR 5/4) loam; massive; friable, nonsticky, nonplastic; many fine and medium roots; moderately acid; clear smooth boundary.

Bt1—6 to 25 inches; yellowish brown (10YR 5/8) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; many distinct clay films and bridges on sand grains and few faint clay films on faces of peds; moderately acid; gradual smooth boundary.

Bt2—25 to 40 inches; yellowish brown (10YR 5/8) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; many distinct clay films and bridges on sand grains and few distinct clay films on faces of peds; few medium distinct light gray (10YR 7/2) iron depletions on faces of peds; few medium distinct yellowish red (5YR 5/8) masses of iron accumulation on faces of peds; very strongly acid; clear smooth boundary.

C—40 to 65 inches; yellowish brown (10YR 5/6) sandy clay loam; massive; friable, nonsticky, nonplastic; common medium distinct light gray (10YR 7/2) iron depletions; very strongly acid.

Range in Characteristics

Thickness of solum: 30 to 60 inches or more
Depth to bedrock: 120 inches or more
Rock fragments: 0 to 5 percent in the A, Ap, E, and Bt horizons; 0 to 50 percent in the C horizon
Reaction: Extremely acid to moderately acid

A horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—loam

Ap horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—5 to 7
Chroma—3 to 8
Texture—loam, sandy clay loam, or clay loam

C horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture—variable and stratified sand or loamy sediments

Cg horizon (if it occurs):
Hue—horizon has hue of 7.5YR to 2.5Y or is neutral in hue
Value—4 to 7
Chroma—0 to 2
Texture—variable and stratified sand or loamy sediments

Appomattox Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Alluvium or colluvium underlain by residuum from crystalline rock
Landform: Uplands
Slope range: 2 to 15 percent

Associated Soils

- Cecil soils, which have a high water table below a

depth of 60 inches and are in landscape positions similar to those of the Appomattox soils
• Cullen soils, which have a high water table below a depth of 60 inches and are in landscape positions similar to those of the Appomattox soils
• Mattaponi soils, which have yellower colors than the Appomattox soils and are in similar landscape positions

Typical Pedon

Appomattox gravelly sandy loam in an area of Appomattox-Cullen complex, 2 to 7 percent slopes; in a forested area, about 0.75 mile east of Oakville on Highway VA-608 and 0.5 mile north-northwest (316 degrees) of the junction of Highways VA-657 and VA-608:

Ap—0 to 6 inches; brown (7.5YR 4/4) gravelly sandy loam; weak coarse subangular blocky and angular blocky structure; friable; many fine, medium, and coarse roots; 27 percent gravel; very strongly acid; clear smooth boundary.
Bt1—6 to 9 inches; red (2.5YR 4/6) clay loam; weak fine, medium, and coarse subangular blocky structure; friable, slightly sticky, slightly plastic; many fine, medium, and coarse roots; few distinct clay films on faces of peds; 10 percent gravel; very strongly acid; clear smooth boundary.
Bt2—9 to 36 inches; red (2.5YR 4/6) clay; weak fine and medium subangular blocky structure; friable, very sticky, plastic; common fine, medium, and coarse roots; common distinct clay films on faces of peds; 10 percent gravel; strongly acid; clear smooth boundary.
Bt3—36 to 49 inches; red (2.5YR 4/6) clay; moderate thin and medium platy structure; firm, slightly sticky, slightly plastic; few fine roots; common medium and coarse distinct dark red (10R 3/6), prominant yellowish brown (10YR 5/8), and very pale brown (10YR 7/4) iron and manganese masses; common distinct clay films on faces of peds; 10 percent gravel; strongly acid; clear smooth boundary.
Bt4—49 to 65 inches; red (2.5YR 4/6) clay; moderate thin and medium platy structure; firm, slightly sticky, slightly plastic; few fine roots; common medium and coarse distinct dark red (10R 3/6) and prominant yellowish brown (10YR 5/8) iron and manganese masses; common medium and coarse distinct light gray (10YR 7/2) iron and manganese depletions; common faint clay films on faces of peds; 10 percent gravel; strongly acid.

Range in Characteristics

Thickness of solum: 40 to 60 inches or more
Depth to soft bedrock: 60 inches or more
Depth to hard bedrock: 60 inches or more
Rock fragments: 15 to 35 percent in the A and E horizons and the upper part of the Bt horizon; 0 to 60 percent in the lower part of the Bt horizon and in the C horizon
Reaction: Very strongly acid to moderately acid

A horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—1 to 6
Texture—sandy loam in the fine-earth fraction

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—1 to 6
Texture—sandy loam in the fine-earth fraction; clay loam in eroded areas

Bt horizon:
Hue—10R or 2.5YR
Value—3 to 5
Chroma—6 or 8
Texture—clay loam, sandy clay, or clay in the fine-earth fraction

C horizon (if it occurs):
Hue—10R or 10YR
Value—3 to 8
Chroma—1 to 8
Texture—loamy or clayey in the fine-earth fraction

Batteau Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Loamy recent alluvium
Landform: Flood plains
Slope range: 0 to 2 percent

Associated Soils

• Altavista soils, which have a subsoil that is more developed than that of the Batteau soils and are in the slightly higher terrace positions
• Wingina soils, which do not have redoximorphic features in the upper part of the subsoil and are in the higher flood plain positions
• Yogaville soils, which have a gray subsoil and are in the lower flood plain positions

Typical Pedon

Batteau loam, 0 to 2 percent slopes, frequently flooded; in an area of pasture, about 1.3 miles north-

northeast (5 degrees) of the junction of Highways VA-605 and VA-624 and 1.8 miles west (270 degrees) of the junction of Highways VA-605 and VA-623:

A—0 to 13 inches; dark brown (10YR 3/3) loam, dark yellowish brown (10YR 4/4) dry; moderate medium granular structure; friable, slightly sticky, slightly plastic; common fine and medium roots; few fine flakes of mica; neutral; abrupt smooth boundary.

Bw1—13 to 32 inches; dark yellowish brown (10YR 4/4) silt loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine flakes of mica; common medium distinct gray (10YR 6/1) iron depletions on faces of peds; common medium distinct yellowish brown (10YR 5/4) masses of iron accumulation on faces of peds; neutral; clear smooth boundary.

Bw2—32 to 60 inches; yellowish brown (10YR 5/6) silt loam; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; few fine flakes of mica; many medium distinct gray (10YR 5/1) iron depletions on faces of peds; slightly acid; clear smooth boundary.

Bg—60 to 72 inches; gray (10YR 5/1) sandy loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine flakes of mica; common medium distinct yellowish red (5YR 5/6) masses of iron accumulation on faces of peds; slightly acid.

Range in Characteristics

Thickness of solum: 30 to 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the A, Bw, and Bg horizons; content may range to 60 percent in the Bw, Bg, and C horizons below a depth of 40 inches
Reaction: Moderately acid to neutral

A horizon:
Hue—7.5YR to 2.5Y
Value—3 moist, 3 to 5 dry
Chroma—2 to 4
Texture—loam

Ap horizon (if it occurs):
Hue—7.5YR or 10YR
Value—3 moist, 3 to 5 dry
Chroma—2 to 4
Texture—loam

Bw horizon:
Hue—7.5YR to 2.5Y
Value—3 to 7
Chroma—3 to 6
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam

Bg horizon:
Hue—horizon has hue of 7.5YR to 2.5Y or is neutral in hue
Value—3 to 7
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam in the fine-earth fraction

C horizon (if it occurs):
Hue—horizon has hue of 7.5YR or 2.5Y or is neutral in hue
Value—4 to 7
Chroma—3 to 8
Texture—sand to clay loam in the fine-earth fraction

Cg horizon:
Hue—horizon has hue of 7.5YR or 2.5Y or is neutral in hue
Value—4 to 7
Chroma—1 or 2
Texture—sand to clay loam in the fine-earth fraction

Beckham Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Marble residuum
Landform: Uplands
Slope range: 2 to 25 percent

Associated Soils

- Appomattox soils, which developed in alluvium or colluvium underlain by residuum and are in landscape positions similar to those of the Beckham soils
- Cecil soils, which formed in felsic rock residuum and are in landscape positions similar to those of the Beckham soils
- Cullen soils, which formed in mixed mafic and felsic rock residuum and are in landscape positions similar to those Beckham soils
- Mattaponi soils, which formed in alluvium or colluvium underlain by residuum and are in landscape positions similar to those of the Beckham soils
- Mayodan soils, which developed in residuum derived from quartzite and are in landscape positions similar to those of the Beckham soils
- Louisburg soils, which have less clay in the subsoil

than the Beckham soils, have bedrock at a depth of 40 inches or more, and are on the steeper slopes

Typical Pedon

Beckham clay loam, 2 to 7 percent slopes; in an area of pasture, about 0.6 mile west-northwest (290 degrees) of the junction of Highways VA-667 and VA-605 and 1.3 miles north-northwest (322 degrees) of the junction of Highways VA-611 and VA-667:

Ap—0 to 7 inches; very dusky red (2.5YR 2.5/2) clay loam, dusky red (2.5YR 3/2) dry; strong medium granular structure; friable, sticky, plastic; many fine roots; few fine manganese concretions; 2 percent angular gravel; moderately acid; clear smooth boundary.

Bt1—7 to 27 inches; dark reddish brown (2.5YR 2.5/4) clay, dark reddish brown (2.5YR 3/4) dry; moderate medium subangular blocky structure; friable, sticky, plastic; common fine roots; few fine manganese concretions; many prominant clay films on faces of peds; 2 percent angular gravel; moderately acid; gradual smooth boundary.

Bt2—27 to 47 inches; dark reddish brown (2.5YR 2.5/4) clay, dark reddish brown (2.5YR 3/4) dry; moderate medium subangular blocky structure; friable, sticky, plastic; common fine roots; few fine manganese concretions; many prominant clay films on faces of peds; 2 percent angular gravel; very strongly acid; gradual smooth boundary.

Bt3—47 to 60 inches; dark reddish brown (2.5YR 2.5/4) clay, dark reddish brown (2.5YR 3/4) dry; moderate medium subangular blocky structure; friable, sticky, plastic; few fine roots; few fine manganese concretions; many prominant clay films on faces of peds; 2 percent angular gravel; very strongly acid; gradual smooth boundary.

Bt4—60 to 72 inches; dark reddish brown (2.5YR 2.5/4) clay, dark reddish brown (2.5YR 3/4) dry; moderate medium subangular blocky structure; friable, sticky, plastic; few fine manganese concretions; many prominant clay films on faces of peds; 5 percent angular gravel; very strongly acid.

Range in Characteristics

Thickness of solum: 72 inches or more
Depth to soft bedrock: 60 inches or more
Depth to hard bedrock: 60 inches or more
Rock fragments: 0 to 15 percent quartzite gravel throughout the profile
Reaction: Very strongly acid to slightly acid throughout the profile

A horizon (if it occurs):
Hue—2.5YR or 5YR
Value—2.5 or 3
Chroma—2 to 6
Texture—clay loam

Ap horizon:
Hue—2.5YR or 5YR
Value—2 or 3
Chroma—2 to 4
Texture—clay loam

Bt horizon:
Hue—10R or 2.5YR
Value—2.5 or 3
Chroma—3 to 6
Texture—clay loam or clay

Cecil Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum from felsic crystalline rock (fig. 8)
Landform: Uplands
Slope range: 2 to 15 percent

Associated Soils

• Appomattox soils, which formed in alluvium or colluvium underlain by residuum and are in landscape positions similar to those of the Cecil soils
• Cullen soils, which formed in residuum from mixed mafic and felsic crystalline rocks and are in landscape positions similar to those of the Cecil soils
• Louisburg soils, which have less clay in the subsoil than the Cecil soils, have bedrock at a depth of 40 inches or more, and are on the steeper slopes
• Mattaponi soils, which have gray iron and manganese depletions in the lower part of the subsoil and are in landscape positions similar to those of the Cecil soils
• Pacolet soils, which have a solum that is thinner than that of the Cecil soils and are in similar landscape positions

Typical Pedon

Cecil sandy loam, 2 to 7 percent slopes; in an area of pasture, about 1.0 mile northeast (59 degrees) of the junction of Highways VA-606 and VA-652 and 100 feet southeast of the Transco Pipe Line:

Ap—0 to 9 inches; strong brown (7.5YR 5/6) sandy loam; moderate fine and medium granular structure; friable, slightly sticky, slightly plastic; many fine roots; 10 percent angular gravel; few

fine flakes of mica; strongly acid; abrupt smooth boundary.
Bt1—9 to 16 inches; red (2.5YR 5/6) clay loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; many distinct clay films on faces of peds; common fine flakes of mica; 2 percent angular gravel; very strongly acid; gradual smooth boundary.
Bt2—16 to 33 inches; red (2.5YR 4/6) clay; strong fine and medium subangular blocky structure; friable, sticky, slightly plastic; common fine and medium roots; many distinct clay films on faces of peds; common fine flakes of mica; 1 percent angular gravel; strongly acid; gradual smooth boundary.
Bt3—33 to 50 inches; red (2.5YR 4/6) clay; moderate fine and medium subangular blocky structure; friable, sticky, slightly plastic; few fine roots; many distinct clay films on faces of peds; common fine flakes of mica; 2 percent angular gravel; strongly acid; gradual wavy boundary.
BC—50 to 65 inches; red (2.5YR 4/6) clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; many coarse faint yellowish red (5YR 5/8) lithochromic masses; few distinct clay films on faces of peds; many fine flakes of mica; 2 percent gravel; strongly acid.

Range in Characteristics

Thickness of solum: 40 to 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the A and Ap horizons; 0 to 10 percent in the Bt, BC, and C horizons
Reaction: Very strongly acid to moderately acid in the A and Ap horizons; very strongly acid or strongly acid in the Bt, BC, and C horizons

A horizon (if it occurs):
Hue—2.5YR to 10YR
Value—3 to 5
Chroma—2 to 8
Texture—sandy loam

Ap horizon:
Hue—2.5YR to 10YR
Value—3 to 5
Chroma—2 to 8
Texture—sandy loam

Bt horizon:
Hue—10R or 2.5YR
Value—4 or 5
Chroma—6 or 8
Texture—clay or clay loam

BC horizon:
Hue—10R to 5YR
Value—4 to 6
Chroma—4 to 8
Texture—clay loam, sandy clay loam, or loam

C horizon (if it occurs):
Hue—2.5YR to 10YR
Value—4 to 8
Chroma—1 to 8
Texture—clay loam, sandy clay loam, loam, or sandy loam

The Cecil soils in Appomattox County are considered taxadjuncts to the series because they do not typically meet the criteria for the kandic horizon. This difference, however, does not significantly affect the use and management of the soils.

Chewacla Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Parent material: Recent alluvium
Landform: Flood plains
Slope range: 0 to 2 percent

Associated Soils

• Altavista soils, which have a subsoil that is older and better developed than that of the Chewacla soils and are in stream terrace positions
• Riverview soils, which do not have iron and manganese depletions in the upper part of the subsoil and are in the higher flood plain positions
• State soils, which have a subsoil that is older and better developed than that of the Chewacla soils and are in stream terrace positions
• Wehadkee soils, which have a gray subsoil and are in similar flood plain positions

Typical Pedon

Chewacla loam, 0 to 2 percent slopes, frequently flooded; in a forested area, about 216 yards east-northeast (48 degrees) of the junction of Highways VA-627 and VA-616 and 1.4 miles north-northeast (5 degrees) of the junction of Highways VA-639 and VA-632:

A—0 to 3 inches; dark brown (10YR 3/3) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; very strongly acid; gradual smooth boundary.
Bw1—3 to 13 inches; dark yellowish brown (10YR 4/4) sandy loam; weak coarse platy structure parting to

weak fine, medium, and coarse subangular blocky; friable; common fine, medium, and coarse roots; very strongly acid; gradual smooth boundary.
Bw2—13 to 24 inches; brown (10YR 4/3) loam; weak coarse platy structure parting to weak fine, medium, and coarse subangular blocky; friable, slightly sticky, nonplastic; common fine, medium, and coarse roots; few medium faint grayish brown (10YR 5/2) iron and manganese depletions; strongly acid; gradual smooth boundary.
Bg—24 to 45 inches; grayish brown (10YR 5/2) sandy loam; weak coarse platy structure parting to moderate fine and medium subangular blocky; friable, slightly sticky, slightly plastic; few fine and medium roots; 5 percent black manganese oxide nodules; many medium distinct dark reddish brown (5YR 3/3) and black (10YR 2/1) iron and manganese masses; strongly acid; clear smooth boundary.
Cg—45 to 65 inches; grayish brown (10YR 5/2) very gravelly sandy loam; massive; firm; few fine roots; 35 percent black manganese oxide nodules and quartz and phyllite gravel; many medium distinct dark reddish brown (5YR 3/3) and black (10YR 2/1) iron and manganese masses; very strongly acid.

Range in Characteristics

Thickness of solum: 40 to 60 inches
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 5 percent in the A horizon and the upper part of the Bw horizon; 0 to 15 percent in the lower part of the Bw horizon; 0 to 80 percent in the C and 2C horizons below a depth of 40 inches
Reaction: Very strongly acid to slightly acid to a depth of 40 inches; very strongly acid to mildly alkaline below a depth of 40 inches

A horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—1 to 4
Texture—loam

Ap horizon (if it occurs):
Hue—5YR to 10YR
Value—3 to 5
Chroma—1 to 4
Texture—loam

Bw horizon:
Hue—5YR to 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam

Bg horizon:
Hue—horizon has hue of 10YR or 2.5Y or is neutral in hue
Value—4 to 7
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam

Cg horizon:
Hue—horizon has hue of 10YR or 2.5Y or is neutral in hue
Value—4 to 7
Chroma—1 or 2
Texture—sand to clay in the fine-earth fraction

Cullen Series

Depth class: Very deep (fig. 9)
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum from mixed mafic and felsic crystalline rock
Landform: Uplands
Slope range: 2 to 15 percent

Associated Soils

• Appomattox soils, which have iron and manganese depletions and masses in the subsoil and are in landscape positions similar to those of the Cullen soils
• Cecil soils, which formed in felsic crystalline rocks and are in landscape positions similar to those of the Cullen soils
• Mecklenburg soils, which have a solum that is thinner than that of the Cullen soils and are on the steeper slopes
• Pacolet soils, which have a solum that is thinner than that of the Cullen soils and are on the steeper side slopes

Typical Pedon

Cullen clay loam in an area of Appomattox-Cullen complex, 2 to 7 percent slopes; in an area of woodland, about 0.75 mile east of Oakville on Highway VA-608 and 700 feet north of Westvaco logging road:

Ap—0 to 9 inches; reddish brown (5YR 4/4) clay loam; moderate fine angular blocky structure; friable, sticky, plastic; many fine roots; 10 percent rounded gravel; strongly acid; abrupt smooth boundary.
Bt1—9 to 29 inches; dark red (2.5YR 3/6) clay; strong

fine and medium angular blocky structure; friable, sticky, plastic; few fine roots; many distinct clay films on faces of peds; 1 percent gravel; strongly acid; gradual smooth boundary.

Bt2—29 to 42 inches; red (2.5YR 4/6) clay; moderate fine and medium angular blocky structure; friable, sticky, slightly plastic; few fine roots; many distinct clay films on faces of peds; strongly acid; gradual smooth boundary.

Bt3—42 to 52 inches; red (2.5YR 4/6) clay; moderate fine and medium angular blocky structure; friable, sticky, slightly plastic; few fine roots; common fine distinct strong brown (7.5YR 5/6) lithochromic masses; common distinct clay films on faces of peds; few fine flakes of mica; strongly acid; clear smooth boundary.

Bt4—52 to 65 inches; red (2.5YR 4/6) clay; moderate fine and medium angular blocky structure; friable, sticky, slightly plastic; many fine and medium distinct strong brown (7.5YR 5/6) lithochromic masses; common distinct clay films on faces of peds; few fine flakes of mica; strongly acid.

Range in Characteristics

Thickness of solum: 40 to 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent throughout the profile
Reaction: Strongly acid or moderately acid

A horizon (if it occurs):
Hue—5YR to 10YR
Value—3 to 5; value of 3 restricted to horizons less than 4 inches thick
Chroma—2 to 8
Texture—fine sandy loam or loam

Ap horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—2 to 8
Texture—clay loam

Bt horizon:
Hue—10R or 2.5YR
Value—3 to 5
Chroma—4 to 8
Texture—clay loam, silty clay loam, silty clay, or clay

C horizon:
Hue—10R to 10YR
Value—3 to 6
Chroma—4 to 8
Texture—loam, silt loam, or clay loam

Iredell Series

Depth class: Deep
Drainage class: Moderately well drained
Permeability: Slow
Parent material: Residuum from mafic crystalline rock (fig. 10)
Landform: Uplands
Slope range: 2 to 15 percent

Associated Soils

• Louisburg soils, which have a shallower solum than the Iredell soils and are in similar landscape positions
• Mecklenburg soils, which have a subsoil that is redder than that of the Iredell soils and are in similar landscape positions
• Poindexter soils, which have a solum that is shallower than that of the Iredell soils and are in similar landscape positions

Typical Pedon

Iredell loam, 2 to 7 percent slopes; in an area of pasture, about 833 yards east-southeast (97 degrees) of the junction of Highways VA-604 and VA-727 and 1.6 miles east-northeast (59 degrees) of the junction of Highways VA-679 and VA-604:

Ap—0 to 5 inches; dark yellowish brown (10YR 4/4) loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and medium roots; 10 percent gravel and channers; strongly acid; gradual smooth boundary.

Btss—5 to 23 inches; yellowish brown (10YR 5/6) clay; moderate medium prismatic structure parting to moderate medium and coarse angular blocky; very firm, very sticky, very plastic; common fine, medium, and coarse roots; many prominent clay films on faces of peds; many distinct slickensides; slightly acid; clear smooth boundary.

C—23 to 43 inches; yellowish brown (10YR 5/6), very pale brown (10YR 8/3), and dark olive gray (5Y 3/2) silt loam; massive; friable, sticky, slightly plastic; few fine and medium roots; few prominent clay flows; neutral; clear smooth boundary.

Cr—43 to 63 inches; yellowish brown (10YR 5/6), very pale brown (10YR 8/3), and dark olive gray (5Y 3/2) slightly weathered chloritic schist that crushes to silt loam.

R—63 inches; hard chloritic schist.

Range in Characteristics

Thickness of solum: 20 to 40 inches
Depth to soft bedrock: 40 inches or more
Depth to hard bedrock: 60 inches or more

Rock fragments: 0 to 15 percent throughout the profile
Reaction: Strongly acid to neutral in the A and Ap horizons; moderately acid to mildly alkaline in the Bt horizon; neutral to moderately alkaline in the C horizon

A horizon (if it occurs):
Hue—10YR to 5Y
Value—4 or 5
Chroma—2 to 4
Texture—loam

Ap horizon:
Hue—10YR to 5Y
Value—4 or 5
Chroma—2 to 4
Texture—loam

Btss horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—silty clay or clay

C horizon:
Hue—horizon has hue of 10YR to 5Y or is neutral in hue
Value—4 to 8
Chroma—0 to 8
Texture—sandy loam, silt loam, loam, or sandy clay loam

Cr horizon (if it occurs):
Hue—horizon has hue of 10YR to 5Y or is neutral in hue
Value—4 to 8
Chroma—0 to 8
Texture—weathered mafic rocks that crush easily to sandy loam, sandy clay loam, silt loam, or loam

Some pedons of the Iredell soils in Appomattox County have more clay in the Bt horizon than is allowed in the range of characteristics for the series. This difference, however, does not significantly affect the use and management of the soils.

Louisburg Series

Depth class: Moderately deep
Drainage class: Well drained to excessively drained
Permeability: Rapid
Parent material: Residuum from felsic crystalline rock
Landform: Uplands
Slope range: 2 to 50 percent

Associated Soils

- Beckham soils, which have more clay in the subsoil than the Louisburg soils, are on adjacent landforms, and formed in marble residuum
- Cecil soils, which have a solum that is deeper than that of the Louisburg soils and are in similar landscape positions
- Iredell soils, which have more clay in the subsoil than the Louisburg soils and are in similar landscape positions
- Mayodan soils, which are deeper to bedrock than the Louisburg soils and are on adjacent landforms
- Mecklenburg soils, which are deeper to bedrock than the Louisburg soils and are in similar landscape positions
- Pacolet soils, which have more clay in the subsoil than the Louisburg soils and are in the less sloping landscape positions
- Poindexter soils, which developed in residuum derived from mixed mafic and felsic crystalline rock and are in landscape positions similar to those of the Louisburg soils
- Wedowee soils, which have more clay in the subsoil than the Louisburg soils and are in the less sloping landscape positions

Typical Pedon

Louisburg gravelly coarse sandy loam in an area of Pacolet-Louisburg complex, 7 to 15 percent slopes; in a forested area, about 0.6 mile south-southwest (212 degrees) of the junction of Highways VA-617 and VA-626 and 1.6 miles east-northeast (46 degrees) of the junction of Highways VA-617 and VA-618:

A—0 to 4 inches; dark grayish brown (10YR 4/2) gravelly coarse sandy loam; weak medium granular structure; very friable, nonsticky, nonplastic; many fine, medium, and coarse roots; 20 percent gravel; very strongly acid; clear smooth boundary.

E—4 to 13 inches; yellowish brown (10YR 5/4) gravelly coarse sandy loam; massive; friable, nonsticky, nonplastic; many fine, medium, and coarse roots; 20 percent gravel; very strongly acid; gradual smooth boundary.

Bw and Bt—13 to 28 inches; 60 percent brownish yellow (10YR 6/6) gravelly sandy loam; weak medium subangular blocky structure; 40 percent lenses and irregular shaped bodies of yellowish brown (10YR 5/8) gravelly sandy clay loam having moderate medium subangular blocky structure and common distinct clay films on faces of peds; friable, slightly sticky; common fine and medium

roots; 20 percent gravel; very strongly acid; diffuse smooth boundary.
Cr—28 to 72 inches; brownish yellow (10YR 6/6) and strong brown (7.5YR 5/6) slightly weathered granite that crushes to gravelly coarse sandy loam.

Range in Characteristics

Thickness of solum: 20 to 40 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 60 inches or more
Rock fragments: 15 to 35 percent in the A, E, and Bw and Bt horizons; 15 to 50 percent in the C horizon
Reaction: Very strongly acid to moderately acid

A horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—2 or 3
Texture—coarse sandy loam in the fine-earth fraction

Ap horizon (if it occurs):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 or 4
Texture—coarse sandy loam in the fine-earth fraction

E horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—4 or 6
Texture—coarse sandy loam or sandy loam in the fine-earth fraction

Bw and Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture of Bw part—coarse sandy loam or sandy loam in the fine-earth fraction
Texture of Bt part—sandy loam or sandy clay loam in the fine-earth fraction

C horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—4 to 8
Chroma—1 to 8
Texture—coarse sandy loam or sandy loam in the fine-earth fraction

Cr horizon:
Hue—7.5YR to 2.5Y
Value—4 to 8
Chroma—1 to 8
Texture—weathered felsic crystalline rock that crushes to coarse sandy loam or sandy loam in the fine-earth fraction

Manteo Series

Depth class: Shallow
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Parent material: Residuum from sericite schist
Landform: Uplands
Slope range: 2 to 60 percent

Associated Soils

• Tatum soils, which have more clay in the subsoil than the Manteo soils and are in the less sloping landscape positions
• Nason soils, which have more clay in the subsoil than the Manteo soils and are in the less sloping landscape positions

Typical Pedon

Manteo very channery loam, 25 to 60 percent slopes; in a forested area, about 2.6 miles east-southeast (97 degrees) of the junction of Highways VA-639 and VA-632 and 2.1 miles south-southwest (252 degrees) of the junction of Highways VA-617 and VA-618:

Oi—2 inches to 0; undecomposed and partially decomposed leaves and twigs.
A—0 to 2 inches; dark yellowish brown (10YR 4/4) very channery loam; weak fine and medium angular blocky structure; friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; 40 percent schist channers; very strongly acid; clear smooth boundary.
AB—2 to 7 inches; yellowish brown (10YR 5/6) very channery loam; weak fine and medium angular blocky structure; friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; 55 percent schist channers; very strongly acid; clear wavy boundary.
Bw—7 to 14 inches; brown (7.5YR 4/4) very channery clay loam; rock control structure parting to weak fine and medium angular blocky; friable, slightly sticky, nonplastic; common fine, medium, and coarse roots; many medium distinct dark grayish brown (2.5Y 4/2) clay flows in old rock fractures; 45 percent schist channers; strongly acid; gradual smooth boundary.
R—14 inches; hard sericite schist.

Range in Characteristics

Thickness of solum: 10 to 20 inches
Depth to hard bedrock: 10 to 20 inches (fig. 11)

Figure 7.—A profile of Altavista soils. These moderately well drained, very deep soils are derived from alluvium and occur on low stream and river terraces. Wetness and flooding are limitations in areas of Altavista soils.

Figure 8.—A profile of Cecil soils. These well drained, very deep soils are derived from felsic crystalline rock and occur on uplands. They have few limitations.

Figure 9.—A profile of Cullen soils. These well drained, very deep soils are derived from mafic rock and occur on uplands. They have few limitations.

Figure 10.—A profile of Iredell soils. These moderately well drained, deep soils are derived from mafic rock and occur on uplands. Wetness and the shrink-swell potential are limitations in areas of Iredell soils.

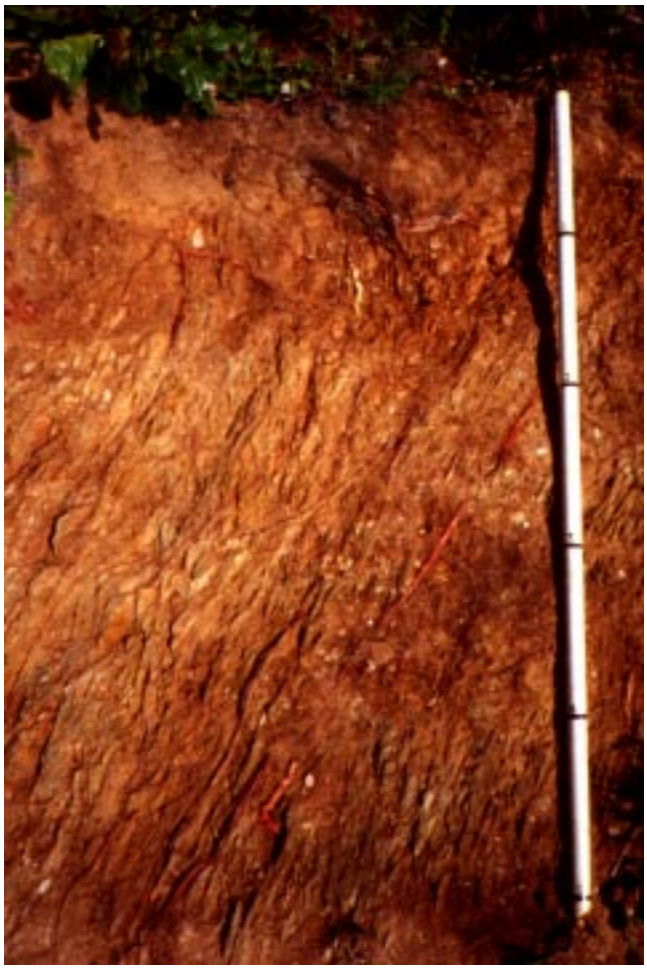


Figure 11.—A profile of Manteo soils. These somewhat excessively drained, shallow soils are derived from sericite schist and occur on side slopes. Depth to bedrock is a limitation in areas of Manteo soils.

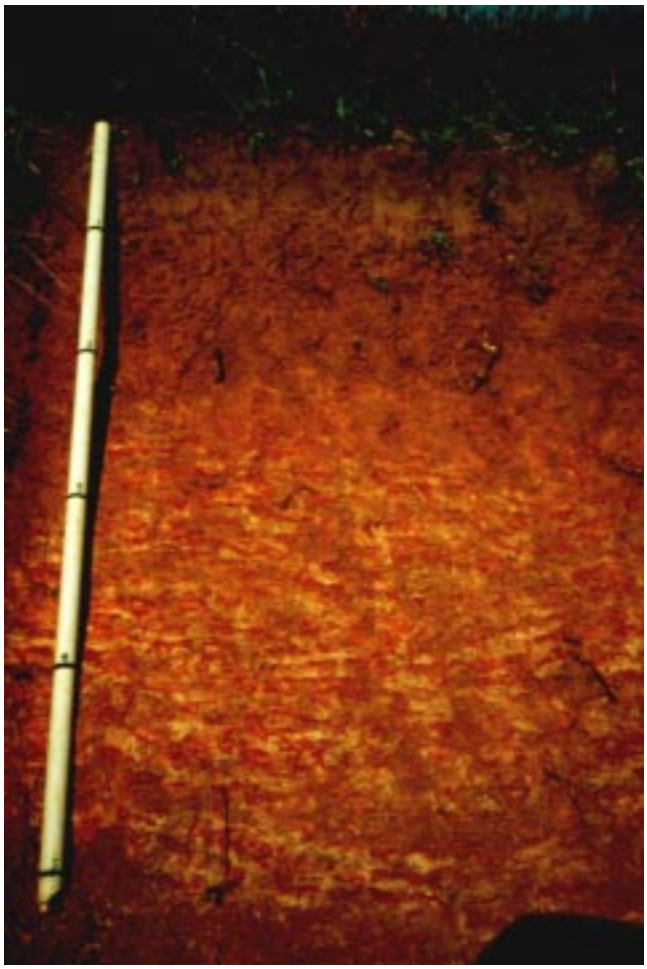


Figure 12.—A profile of Mattaponi soils. These moderately well drained, very deep soils are derived from old colluvium and occur on broad uplands. Wetness is a limitation in areas of Mattaponi soils.

Figure 13.—A profile of Riverview soils. These well drained, very deep soils are derived from alluvium and occur on flood plains other than those of the James River. Although flooding is a limitation, these soils are very fertile.

Figure 14.—A profile of Turbeville soils. These well drained, very deep soils are derived from old alluvium and occur on high terraces adjacent to streams and rivers. Note the water-rounded cobbles.

Rock fragments: 35 to 60 percent in the A and Ap horizons; 35 to 80 percent in the Bw and C horizons
Reaction: Extremely acid to strongly acid

A horizon:
Hue—10YR or 2.5Y
Value—3 or 4
Chroma—2 to 4
Texture—loam in the fine-earth fraction

Ap horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 6
Texture—loam in the fine-earth fraction

AB horizon:
Hue—10YR or 7.5YR
Value—4 or 6
Chroma—2 to 6
Texture—loam or silt loam in the fine-earth fraction

Bw horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—silt loam or clay loam in the fine-earth fraction

C horizon (if it occurs):
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—silt loam or clay loam in the fine-earth fraction

Mattaponi Series

Depth class: Very deep (fig. 12)
Drainage class: Moderately well drained
Permeability: Moderately slow
Parent material: Alluvium or colluvium underlain by residuum from crystalline rock
Landform: Uplands
Slope range: 2 to 15 percent

Associated Soils

• Appomattox soils, which have redder colors than the Mattaponi soils and are in similar landscape positions
• Cecil soils, which do not have gray iron and manganese depletions in the lower part of the subsoil and are in landscape positions similar to those of the Mattaponi soils
• Cullen soils, which do not have gray iron and manganese depletions in the lower part of the subsoil and are in landscape positions similar to those of the Mattaponi soils

Typical Pedon

Mattaponi sandy loam in an area of Mattaponi-Cecil complex, 2 to 7 percent slopes; in a cultivated area, about 2.0 miles east-southeast (99 degrees) of the junction of Highways VA-649 and VA-603 and 1.5 miles north-northwest (354 degrees) of the junction of Highways VA-649 and VA-644:

Ap—0 to 9 inches; brown (10YR 5/3) sandy loam; weak fine granular structure; friable; many fine and medium roots; 10 percent angular and subrounded quartz gravel; very strongly acid; clear smooth boundary.
Bt1—9 to 38 inches; strong brown (7.5YR 5/6) clay loam; weak medium and coarse subangular blocky structure; friable, sticky, slightly plastic; common fine and medium roots; many distinct clay films on faces of peds; 10 percent angular and subrounded quartz gravel; very strongly acid; gradual smooth boundary.
Bt2—38 to 45 inches; strong brown (7.5YR 5/6) clay; weak medium platy structure parting to weak medium subangular blocky; friable, sticky, slightly plastic; common fine roots; many medium distinct red (2.5YR 4/8) iron and manganese masses; many distinct clay films on faces of peds; strongly acid; gradual smooth boundary.
Bt3—45 to 65 inches; strong brown (7.5YR 5/6) clay; weak medium platy structure parting to moderate medium and coarse subangular blocky; friable, sticky, slightly plastic; many medium distinct pinkish gray (7.5YR 7/2) iron and manganese depletions; many distinct clay films on faces of peds; 5 percent angular quartz gravel; strongly acid.

Range in Characteristics

Thickness of solum: 30 to 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the A, Ap, and E horizons; 0 to 35 percent in the Bt horizon; 0 to 50 percent in the C horizon
Reaction: Very strongly acid or strongly acid

A horizon (if it occurs):
Hue—5YR to 2.5Y
Value—2 to 7; value of 3 occurring only where horizon is less than 4 inches thick
Chroma—2 to 8
Texture—sandy loam in the fine-earth fraction

Ap horizon:
Hue—5YR to 2.5Y

Value—2 to 7; value of 3 occurring only where horizon is less than 4 inches thick
Chroma—2 to 8
Texture—sandy loam in the fine-earth fraction

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 8
Chroma—3 to 8
Texture—clay loam, sandy clay, or clay in the fine-earth fraction

C horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—4 to 8
Chroma—3 to 8
Texture—stratified sand to clay in the fine-earth fraction

Mayodan Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Quartzite residuum
Landform: Uplands
Slope range: 2 to 25 percent

Associated Soils

• Beckham soils, which formed in residuum derived from marble and are in landscape positions similar to those of the Mayodan soils
• Louisburg soils, which have a solum that is thinner than that of the Mayodan soils and are in similar landscape positions

Typical Pedon

Mayodan gravelly sandy loam, 2 to 7 percent slopes; in a forested area, about 0.6 mile northwest of the junction of Highways VA-605 and VA-721 and 0.7 mile southeast of the junction of Highway VA-721 and the James River:

Ap—0 to 7 inches; strong brown (7.5YR 5/6) gravelly sandy loam; weak subangular blocky structure; friable; many fine, medium, and coarse roots; 20 percent angular gravel; strongly acid; clear smooth boundary.
Bt—7 to 45 inches; red (2.5YR 4/6) clay; moderate fine, medium, and coarse subangular blocky structure; friable, sticky, slightly plastic; common fine and medium roots; many distinct clay films on faces of peds; 5 percent angular gravel; strongly acid; gradual wavy boundary.
C—45 to 61 inches; red (2.5YR 4/6) sandy clay loam; many medium distinct strong brown (7.5YR 5/8) highly weathered rock fragments; massive; friable, slightly sticky; strongly acid.

Range in Characteristics

Thickness of solum: 30 to 60 inches
Depth to bedrock: 60 inches or more
Rock fragments: 15 to 35 percent in the A and Ap horizons; 0 to 5 percent in the Bt and C horizons
Reaction: Very strongly acid to moderately acid in the A and Ap horizons and the upper part of the Bt horizon; very strongly acid or strongly acid in the lower part of the Bt horizon and in the C horizon

A horizon (if it occurs):
Hue—5YR to 2.5Y
Value—2 to 6
Chroma—2 to 8
Texture—sandy loam in the fine-earth fraction

Ap horizon:
Hue—5YR to 2.5Y
Value—2 to 6
Chroma—2 to 8
Texture—sandy loam in the fine-earth fraction

Bt horizon:
Hue—2.5YR to 7.5YR
Value—4 to 6
Chroma—3 to 8
Texture—clay loam or clay

C horizon (if it occurs):
Hue—2.5YR to 10YR
Value—3 to 6
Chroma—2 to 8
Texture—loam, sandy clay loam, or clay loam

The Mayodan soils in Appomattox County formed in residuum material similar to that defined for the Mayodan series, which is Triassic material. Triassic materials are not recognized in Appomattox County. This difference, however, does not significantly affect the use and management of the soils.

Mecklenburg Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Parent material: Residuum from mafic crystalline rock
Landform: Uplands
Slope range: 2 to 25 percent

Associated Soils

• Cullen soils, which have a solum that is thicker than

that of the Mecklenburg soils and are in similar landscape positions
• Iredell soils, which have gray colors and are in landscape positions similar to those of the Mecklenburg soils
• Louisburg soils, which have a solum that is shallower than that of the Mecklenburg soils and are in similar landscape positions
• Poindexter soils, which have less clay in the subsoil than the Mecklenburg soils and are in similar landscape positions

Typical Pedon

Mecklenburg loam, 2 to 7 percent slopes; in a cultivated area, about 700 yards south-southeast (169 degrees) of the junction of Highways VA-727 and VA-641 and 1.1 miles east-southeast (121 degrees) of the junction of Highways VA-719 and VA-691:

Ap—0 to 4 inches; reddish brown (5YR 4/4) loam; weak medium and coarse subangular blocky structure; friable, nonsticky, nonplastic; many fine roots; 10 percent angular quartz gravel; moderately acid; abrupt smooth boundary.
Bt1—4 to 30 inches; red (2.5YR 4/6) clay; moderate medium and coarse subangular blocky structure; friable, sticky, plastic; few fine roots; many medium distinct black (N 2.5/1) iron and manganese masses; many distinct clay films on faces of peds; 5 percent angular quartz gravel; moderately acid; gradual smooth boundary.
Bt2—30 to 39 inches; yellowish red (5YR 5/8) clay; weak medium and coarse subangular blocky structure; friable, sticky, slightly plastic; many fine distinct black (N 2.5/1) iron and manganese masses; many distinct clay films on faces of peds; 5 percent angular quartz gravel; moderately acid; gradual smooth boundary.
BC—39 to 50 inches; yellowish red (5YR 5/8) and reddish yellow (7.5YR 6/6) loam; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; many moderate distinct black (N 2.5/0) iron and manganese masses; 5 percent angular quartz gravel; moderately acid; abrupt smooth boundary.
C—50 to 65 inches; red (2.5YR 5/6), reddish yellow (5YR 6/6), and brownish yellow (10YR 6/6) loam; massive; friable, slightly sticky, slightly plastic; many moderate distinct black (N 2.5/0) iron and manganese masses; 10 percent angular quartz gravel; moderately acid.

Range in Characteristics

Thickness of solum: 20 to 40 inches
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the A and Ap horizons; 0 to 10 percent in the Bt and C horizons
Reaction: Strongly acid to slightly acid in the A and Ap horizons; moderately acid to neutral in the Bt and C horizons

A horizon (if it occurs):
Hue—2.5YR to 7.5YR
Value—3 to 6
Chroma—2 to 6
Texture—sandy loam, fine sandy loam, or loam

Ap horizon:
Hue—2.5YR to 7.5YR
Value—3 to 6
Chroma—2 to 6
Texture—loam

Bt horizon:
Hue—2.5YR or 5YR
Value—4 to 6
Chroma—4 to 8
Texture—clay

BC horizon:
Color—horizon has hue of 2YR to 7.5YR, value of 4 to 7, and chroma of 4 to 8 and is mottled in these colors
Texture—loam, sandy clay loam, clay loam, silt loam, or silty clay loam

C horizon:
Hue—2.5YR to 10YR
Value—3 to 8
Chroma—1 to 8
Texture—loam, silt loam, clay loam, or silty clay loam

Nason Series

Depth class: Deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum from schist and phyllite
Landform: Uplands
Slope range: 2 to 25 percent

Associated Soils

• Manteo soils, which are shallower to bedrock than the Nason soils and are in similar landscape positions
• Tatum soils, which have a subsoil that is redder than that of the Nason soils and are in similar landscape positions

Typical Pedon

Nason gravelly loam, 2 to 7 percent slopes; in a

forested area, about 480 yards southwest (214 degrees) of the junction of Highways VA-645 and VA-679 and 0.7 mile west-northwest (291 degrees) of the junction of Highways VA-604 and VA-645:

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) gravelly loam; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; many fine, medium, and coarse roots; 25 percent gravel; very strongly acid; clear smooth boundary.
E—4 to 12 inches; yellowish brown (10YR 5/4) gravelly loam; weak coarse and medium subangular blocky structure; friable, slightly sticky; many fine, medium, and coarse roots; 15 percent gravel; very strongly acid; clear smooth boundary.
Bt—12 to 45 inches; strong brown (7.5YR 5/6) clay; moderate fine and medium subangular blocky structure; friable, sticky, plastic; common fine and medium roots; common medium distinct red (2.5YR 4/8) lithochromic masses; common distinct clay films on faces of peds; 10 percent channers; very strongly acid; gradual smooth boundary.
Cr—45 to 63 inches; strong brown (7.5YR 4/8), reddish brown (2.5YR 4/4), and reddish yellow (7.5YR 6/8) weathered sericite schist that crushes to silt loam.
R—63 inches; hard sericite schist.

Range in Characteristics

Thickness of solum: 25 to 50 inches
Depth to soft bedrock: 40 to 60 inches
Depth to hard bedrock: 60 inches or more
Rock fragments: 15 to 35 percent in the A, Ap, and E horizons; 0 to 35 percent in the Bt horizon; 15 to 40 percent in the C horizon
Reaction: Very strongly acid or strongly acid

A horizon (if it occurs):
Hue—7.5YR or 10YR
Value—2 to 5; value of 2 and 3 occurring only where horizon is less than 6 inches thick
Chroma—2 to 4
Texture—fine sandy loam, loam, or silt loam in the fine-earth fraction

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 6
Texture—loam in the fine-earth fraction

E horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 6
Texture—fine sandy loam, loam, or silt loam in the fine-earth fraction

Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—clay loam, silty clay loam, silty clay, or clay

C horizon (if it occurs):
Hue—2.5YR to 10YR
Value—2 to 7
Chroma—1 to 8
Texture—silt loam, clay loam, or silty clay loam in the fine-earth fraction

Cr horizon:
Hue—2.5YR to 10YR
Value—2 to 7
Chroma—1 to 8
Texture—weathered sericite schist that crushes to silt loam, silty clay loam, or clay in the fine-earth fraction

Some pedons of the Nason soils in Appomattox County have less silt in the Bt horizon and more clay in the C horizon than is allowed in the range of characteristics of the series. These differences, however, do not significantly affect the use and management of the soils.

Pacolet Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum from felsic crystalline rock
Landform: Uplands
Slope range: 2 to 25 percent

Associated Soils

- Cecil soils, which have a solum that is thicker than that of the Pacolet soils and are in similar landscape positions
- Cullen soils, which have a solum that is thicker than that of the Pacolet soils and are in similar landscape positions
- Louisburg soils, which have less clay than the Pacolet soils and are in similar landscape positions
- Wedowee soils, which have a subsoil that is yellower than that of the Pacolet soils and are in similar landscape positions

Typical Pedon

Pacolet sandy loam in an area of Pacolet-Louisburg complex, 7 to 15 percent slopes; in a cultivated area, about 1.4 miles northeast (85 degrees) of the junction of Highways VA-667 and VA-608 and 1.6 miles southwest (262 degrees) of the junction of Highways VA-665 and VA-608:

Ap—0 to 7 inches; brown (7.5YR 5/4) sandy loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine, medium, and coarse roots; 10 percent gravel; very strongly acid; clear smooth boundary.

Bt1—7 to 23 inches; red (2.5YR 4/6) clay; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine, medium, and coarse roots; many distinct clay films on faces of peds; 10 percent gravel; strongly acid; gradual wavy boundary.

Bt2—23 to 29 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; many medium distinct reddish yellow (7.5YR 7/8) lithochromic masses; many distinct clay films on faces of peds; 10 percent gravel; strongly acid; gradual wavy boundary.

C1—29 to 50 inches; yellowish red (5YR 4/6), red (2.5YR 4/6), and yellowish brown (10YR 5/6) loam; massive; friable, slightly sticky, nonplastic; 10 percent gravel; very strongly acid; gradual smooth boundary.

C2—50 to 64 inches; yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and red (2.5YR 4/8) loam; massive; friable, slightly sticky, nonplastic; 10 percent gravel; very strongly acid.

Range in Characteristics

Thickness of solum: 20 to 30 inches
Depth to soft bedrock: 60 inches or more
Depth to hard bedrock: 60 inches or more
Rock fragments: 0 to 15 percent throughout the profile
Reaction: Very strongly acid to slightly acid in the A and Ap horizons; very strongly acid to moderately acid in the Bt and C horizons

A horizon (if it occurs):
Hue—5YR to 10YR
Value—3 to 5
Chroma—1 to 4
Texture—sandy loam

Ap horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—1 to 4
Texture—sandy loam; sandy clay loam or clay loam in eroded areas

Bt horizon:
Hue—10R or 2.5YR
Value—4 or 5
Chroma—6 or 8
Texture—clay loam, sandy clay, or clay

C horizon:
Hue—2.5YR or 5YR
Value—4 or 5
Chroma—6 or 8
Texture—sandy loam or loam

The Pacolet soils in Appomattox County are considered taxadjuncts to the series because they do not typically meet the criteria for the kandic horizon. This difference, however, does not significantly affect the use and management of the soils.

Poindexter Series

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum from mixed mafic and felsic crystalline rock
Landform: Uplands
Slope range: 2 to 60 percent

Associated Soils

- Iredell soils, which have more clay in the subsoil than the Poindexter soils and are in similar landscape positions
- Louisburg soils, which developed in residuum derived from felsic crystalline rock and are in landscape positions similar to those of the Poindexter soils
- Mecklenburg soils, which have more clay in the subsoil than the Poindexter soils and are in similar landscape positions

Typical Pedon

Poindexter gravelly silt loam, 25 to 60 percent slopes; in a forested area, about 2.7 miles north-northeast (42 degrees) of the junction of Highways VA-26 and US-60 and 1.7 miles north-northeast (5 degrees) of the junction of Highways VA-664 and VA-26:

Ap—0 to 7 inches; dark grayish brown (2.5Y 4/2) gravelly silt loam; weak fine granular structure; friable; many fine, medium, and coarse roots; 30 percent channers; strongly acid; clear smooth boundary.

Bt—7 to 21 inches; dark yellowish brown (10YR 4/4)

silt loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; common medium distinct olive brown (2.5Y 4/4) lithochromic masses; common distinct clay films on faces of peds; 10 percent channers; strongly acid; clear smooth boundary.

C—21 to 30 inches; variegated dark yellowish brown (10YR 4/6), greenish gray (5GY 6/1), olive brown (2.5Y 4/4), and grayish green (5G 4/2) silt loam; massive; friable, slightly sticky, slightly plastic; 5 percent channers; strongly acid; gradual smooth boundary.

Cr—30 to 51 inches; variegated dark yellowish brown (10YR 4/6), greenish gray (5GY 6/1), olive brown (2.5Y 4/4), and grayish green (5G 4/2) weathered hornblende gneiss that crushes to gravelly silt loam.

R—51 inches; hard hornblende gneiss.

Range in Characteristics

Thickness of solum: 14 to 36 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches
Rock fragments: 15 to 35 percent in the A and Ap horizons; 0 to 35 percent in the Bt and C horizons
Reaction: Strongly acid to neutral

A horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—2 to 4
Texture—silt loam in the fine-earth fraction

Ap horizon:
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—2 to 4
Texture—silt loam in the fine-earth fraction

Bt horizon:
Hue—5YR to 2.5Y
Value—4 to 6
Chroma—4 to 8
Texture—loam, sandy clay loam, silt loam, or clay loam in the fine-earth fraction

C horizon:
Hue—5YR to 5GY
Value—4 to 8
Chroma—1 to 8
Texture—sandy loam, loam, silt loam, sandy clay loam, or silty clay loam in the fine-earth fraction

Cr horizon:
Hue—5YR to 5GY
Value—4 to 8
Chroma—1 to 8
Texture—weathered hornblende gneiss that crushes to sandy loam, loam, or silt loam in the fine-earth fraction

Riverview Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Recent alluvium (fig. 13)
Landform: Flood plains
Slope range: 0 to 2 percent

Associated Soils

• Altavista soils, which have a subsoil that is more developed than that of the Riverview soils and are in stream terrace positions
• Chewacla soils, which have gray mottles in the upper part of the subsoil and are in the lower flood plain positions
• State soils, which have a subsoil that is more developed than that of the Riverview soils and are in stream terrace positions
• Wehadkee soils, which have a gray subsoil and are in the lower flood plain positions

Typical Pedon

Riverview loam, 0 to 2 percent slopes, occasionally flooded; in an area of pasture, 1.8 miles north-northwest (342 degrees) of the junction of Highways VA-639 and VA-627 and 2.4 miles east-northeast (58 degrees) of the junction of Highways VA-639 and VA-632:

Ap—0 to 6 inches; dark yellowish brown (10YR 3/4) loam; weak coarse granular structure; friable, nonsticky, nonplastic; many fine and medium roots; strongly acid; clear smooth boundary.

Bw1—6 to 18 inches; dark yellowish brown (10YR 4/4) sandy clay loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common fine roots; strongly acid; diffuse smooth boundary.

Bw2—18 to 38 inches; dark yellowish brown (10YR 4/4) sandy clay loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common fine roots; few medium faint brown (7.5YR 4/4) iron and manganese masses; strongly acid; diffuse smooth boundary.

C—38 to 65 inches; very pale brown (10YR 7/4) sandy loam; massive; friable, nonsticky, nonplastic; few fine roots; many medium distinct yellowish brown (10YR 5/6) and black (10YR 2/1) iron and

manganese masses; few fine flakes of mica; strongly acid.

Range in Characteristics

Thickness of solum: 24 to 60 inches
Depth to bedrock: 60 inches or more
Rock fragments: Less than 1 percent
Reaction: Very strongly acid or strongly acid

A horizon (if it occurs):
Hue—7.5YR or 10YR
Value—3 to 5; value of 3 occurring only where horizon is less than 7 inches thick
Chroma—2 to 4
Texture—fine sandy loam, loam, or silt loam

Ap horizon:
Hue—7.5YR or 10YR
Value—3 to 5; value of 3 occurring only where horizon is less than 7 inches thick
Chroma—2 to 4
Texture—loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 or 6
Texture—loam, sandy clay loam, or clay loam

C horizon:
Hue—7.5YR or 10YR
Value—4 to 8
Chroma—4 to 8
Texture—loamy sand, sandy loam, fine sandy loam, silt loam, or silty clay loam; stratified in some pedons

State Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Recent alluvium
Landform: Stream terraces
Slope range: 0 to 2 percent

Associated Soils

• Altavista soils, which have iron and manganese depletions in the lower part of the subsoil and are in landscape positions similar to those of the State soils
• Chewacla soils, which have iron and manganese depletions in the subsoil and are on adjacent flood plains
• Riverview soils, which have a subsoil that is less developed than that of the State soils and are in flood plain positions
• Wehadkee soils, which have iron and manganese depletions in the subsoil and are on adjacent flood plains

Typical Pedon

State loam, 0 to 2 percent slopes, rarely flooded; in an area of pasture, about 2.4 miles east-northeast (65 degrees) of the junction of Highways VA-639 and VA-632 and 2.5 miles west-northwest (283 degrees) of the junction of Highways VA-617 and VA-618:

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4) loam; massive; friable, slightly sticky, nonplastic; many fine and medium roots; strongly acid; clear smooth boundary.
Bt1—6 to 20 inches; strong brown (7.5YR 4/6) sandy clay loam; weak medium and coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; common distinct clay films on faces of peds; strongly acid; gradual smooth boundary.
Bt2—20 to 38 inches; strong brown (7.5YR 4/6) clay; weak medium subangular blocky structure; friable, sticky, slightly plastic; few fine roots; common medium and coarse faint yellowish brown (10YR 5/8) iron and manganese masses; many distinct clay films on faces of peds; strongly acid; gradual smooth boundary.
C—38 to 65 inches; strong brown (7.5YR 5/8) clay loam; massive; firm, slightly sticky, nonplastic; few fine roots; few fine distinct yellowish brown (10YR 5/8) iron and manganese masses; very strongly acid.

Range in Characteristics

Thickness of solum: 30 to 60 inches
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 2 percent in the A, Ap, and Bt horizons; 0 to 15 percent in the C horizon
Reaction: Extremely acid to strongly acid in the A and Ap horizons and the upper part of the Bt horizon; extremely acid to slightly acid in the lower part of the Bt horizon and in the C horizon

A horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—2 to 6
Texture—sandy loam, fine sandy loam, loam, or silt loam

Ap horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 8
Texture—loam, sandy clay loam, or clay loam having clay in subhorizons

C horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—2 to 8
Texture—stratified sand, loamy sand, or sandy loam in the fine-earth fraction

The State soils in Appomattox County differ from the defined State series criteria because they commonly have clay texture in subhorizons of the Bt horizon and clay loam in the C horizon. These differences, however, do not significantly affect the use and management of the soils.

Tatum Series

Depth class: Deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum from sericite schist and phyllite
Landform: Uplands
Slope range: 2 to 25 percent

Associated Soils

- Nason soils, which have a subsoil that is browner than that of the Tatum soils and are in similar landscape positions
- Manteo soils, which are shallower to bedrock than the Tatum soils and are in similar landscape positions
- Turbeville soils, which have a solum that is thicker than that of the Tatum soils and are in high terrace positions

Typical Pedon

Tatum silt loam, 2 to 7 percent slopes; in a forested area, about 0.9 mile east-southeast (118 degrees) of the junction of Highways VA-635 and VA-695 and 0.9 mile south-southwest (224 degrees) of the junction of Highways US-460 and VA-695:

Oi—2 inches to 0; undecomposed and partially decomposed leaves and twigs.
A—0 to 5 inches; yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; 10 percent angular gravel; strongly acid; gradual smooth boundary.
BA—5 to 10 inches; yellowish red (5YR 5/8) silt loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine, medium, and coarse roots; 10 percent angular gravel; strongly acid; clear smooth boundary.
Bt1—10 to 34 inches; red (2.5YR 4/6) clay; moderate fine and medium angular blocky structure; friable, sticky, slightly plastic; common fine, medium, and coarse roots; many distinct clay films on faces of peds; 5 percent angular gravel; strongly acid; gradual wavy boundary.
Bt2—34 to 41 inches; red (2.5YR 5/6) clay; moderate fine and medium angular blocky structure; friable, slightly sticky, slightly plastic; common fine, medium, and coarse roots; common distinct clay films on faces of peds; 5 percent angular gravel; strongly acid; abrupt irregular boundary.
Cr—41 to 60 inches; variegated yellow (2.5Y 7/6) and reddish brown (2.5YR 4/4) weathered sericite schist that crushes to loam.

Range in Characteristics

Thickness of solum: 30 to 60 inches
Depth to soft bedrock: 40 to 60 inches
Depth to hard bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the A and Ap horizons; 0 to 35 percent in the Bt and C horizons
Reaction: Very strongly acid or strongly acid

A horizon:
Hue—7.5YR or 10YR
Value—3 to 6
Chroma—2 to 4
Texture—silt loam

Ap horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 8
Texture—silt loam

BA horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 8
Texture—silt loam

Bt horizon:
Hue—10R or 2.5YR
Value—4 or 5
Chroma—6 or 8
Texture—clay loam, silty clay loam, silty clay, or clay in the fine-earth fraction

C horizon (if it occurs):
Hue—10R to 5YR

Value—4 to 6
Chroma—4 to 8
Texture—silt loam or silty clay loam in the fine-earth fraction

Cr horizon:
Hue—10R to 5Y
Value—4 to 8
Chroma—1 to 8
Texture—weathered sericite schist that crushes to silt loam or loam

Turbeville Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Old alluvium
Landform: High terraces
Slope range: 2 to 25 percent

Associated Soils

• Tatum soils, which are shallower to soft bedrock than the Turbeville soils and are in adjacent upland positions

Typical Pedon

Turbeville loam in an area of Turbeville-Tatum complex, 15 to 25 percent slopes; in an area of pasture, about 1.3 miles north-northwest (328 degrees) of the junction of Highways VA-623 and VA-625 and 1.6 miles west-northwest (276 degrees) of the junction of Highways VA-683 and VA-605:

Ap—0 to 4 inches; brown (7.5YR 4/4) loam; moderate fine and medium angular blocky structure; friable, sticky, slightly plastic; many fine and medium roots; strongly acid; clear smooth boundary.
Bt1—4 to 24 inches; red (2.5YR 4/6) clay; few medium distinct black (N 2/0) soft masses; moderate fine and medium subangular blocky structure; friable, sticky, slightly plastic; common fine roots; many distinct clay films and bridges on sand grains and few distinct clay films on faces of peds; strongly acid; gradual smooth boundary.
Bt2—24 to 40 inches; red (2.5YR 4/6) clay; moderate fine, medium, and coarse subangular blocky structure; friable, sticky, slightly plastic; common fine roots; few medium distinct black (N 2/0) soft masses; many distinct clay films and bridges on sand grains and few distinct clay films on faces of peds; strongly acid; gradual smooth boundary.
Bt3—40 to 65 inches; red (2.5YR 4/6) clay; moderate fine, medium, and coarse subangular blocky structure; friable, sticky, slightly plastic; few fine roots; few medium distinct black (N 2/0) soft masses; many distinct clay films and bridges on sand grains and few distinct clay films on faces of peds; strongly acid.

Range in Characteristics

Thickness of solum: 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the A and Ap horizons; 0 to 35 percent in the Bt horizon (fig. 14)
Reaction: Very strongly acid or strongly acid

A horizon (if it occurs):
Hue—5YR to 10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam

Ap horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam

Bt horizon (upper part):
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—clay loam, sandy clay, or clay in the fine-earth fraction

Bt horizon (lower part):
Hue—10R to 5YR
Value—3 or 4
Chroma—4 to 8
Texture—clay loam, sandy clay, or clay in the fine-earth fraction

Wedowee Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum from felsic crystalline rock
Landform: Uplands
Slope range: 2 to 25 percent

Associated Soils

• Pacolet soils, which have a subsoil that is redder than that of the Wedowee soils and are in similar landscape positions
• Louisburg soils, which have less clay in the subsoil than the Wedowee soils and are in similar landscape positions

Typical Pedon

Wedowee sandy loam, 2 to 7 percent slopes; in a cultivated area, about 0.9 mile northeast (39 degrees) of the junction of Highways VA-727 and VA-638 and 1.2 miles west-southwest (245 degrees) of junction of Highways VA-663 and VA-638:

Ap—0 to 7 inches; yellowish brown (10YR 5/4) and brown (10YR 5/3) sandy loam; moderate fine, medium, and coarse subangular blocky structure; friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; 10 percent gravel; very strongly acid; clear smooth boundary.

Bt—7 to 25 inches; yellowish brown (10YR 5/6) and brownish yellow (10YR 6/6) clay loam; moderate medium angular blocky structure; friable, slightly sticky, slightly plastic; many fine, medium, and coarse roots; many distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

C1—25 to 47 inches; yellowish brown (10YR 5/6), brownish yellow (10YR 6/6), and yellowish red (5YR 5/8) sandy clay loam; massive; friable, slightly sticky, nonplastic; few fine roots; very strongly acid, gradual wavy boundary.

C2—47 to 65 inches; yellowish brown (10YR 5/6), brownish yellow (10YR 6/6), very pale brown (10YR 8/3), and yellowish red (5YR 5/8) sandy clay loam; massive; friable, slightly sticky, nonplastic; very strongly acid.

Range in Characteristics

Thickness of solum: 20 to 40 inches
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the A and Ap horizons; 0 to 35 percent in the Bt and C horizons
Reaction: Very strongly acid or strongly acid

A horizon (if it occurs):
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—2 to 4
Texture—sandy loam

Ap horizon:
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—2 to 4
Texture—sandy loam

Bt horizon:
Hue—5YR to 10YR
Value—4 or 6
Chroma—6 to 8
Texture—clay loam or clay

C horizon:
Hue—2.5YR to 10YR
Value—4 to 8
Chroma—1 to 8
Texture—sandy loam, sandy clay loam, or clay loam

The Wedowee soils in Appomattox County are considered taxadjuncts to the series because they do not typically meet the criteria for the kandic horizon. This difference, however, does not significantly affect the use and management of the soils.

Wehadkee Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Recent alluvium
Landform: Flood plains
Slope range: 0 to 2 percent

Associated Soils

- Altavista soils, which have a subsoil that is older and better developed than that of the Wehadkee soils, have iron and manganese depletions lower in the subsoil, and are on adjacent terraces
- Chewacla soils, which have a subsoil that is browner than that of the Wehadkee soils and are in similar landscape positions
- Riverview soils, which do not have iron and manganese depletions in the upper part of the subsoil and are in the higher flood plain positions
- State soils, which do not have iron and manganese depletions in the upper part of the subsoil and are on adjacent stream terraces

Typical Pedon

Wehadkee loam, 0 to 2 percent slopes, frequently flooded; in a forested area, about 352 yards west-southwest (254 degrees) of the junction of Highways VA-26 and US-60 and 1.1 miles south-southwest (208 degrees) of the junction of Highways VA-605 and the Appomattox-Buckingham County line:

A—0 to 6 inches; grayish brown (10YR 5/2) loam; massive; friable, slightly sticky, nonplastic; many fine roots; strongly acid; abrupt smooth boundary.

Bg1—6 to 14 inches; light brownish gray (2.5Y 6/2) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; common fine roots; many medium distinct light yellowish brown (2.5Y 6/4) and yellowish red (5YR 4/8) iron and manganese masses; few fine flakes of mica; strongly acid; diffuse smooth boundary.

Bg2—14 to 25 inches; light olive gray (5Y 6/2) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; many medium distinct yellowish red (5YR 4/8) and yellowish brown (10YR 5/6) iron and manganese masses; few fine flakes of mica; very strongly acid; diffuse smooth boundary.
Bg3—25 to 45 inches; gray (5Y 6/1) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; many medium distinct yellowish red (5YR 4/8) and brownish yellow (10YR 6/6) iron and manganese masses; few fine flakes of mica; very strongly acid; diffuse smooth boundary.
Cg—45 to 74 inches; light gray (N 7/0), gray (10YR 5/1), and yellowish brown (10YR 5/6) sandy loam; massive; friable, slightly sticky, nonplastic; gray areas are iron and manganese depletions, and brown areas are iron and manganese masses; common fine flakes of mica; very strongly acid.

Range in Characteristics

Thickness of solum: 20 to 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: Less than 1 percent
Reaction: Very strongly acid to slightly acid

A horizon:
Hue—horizon has hue of 10YR or 2.5Y or is neutral in hue
Value—4 to 6
Chroma—0 to 4
Texture—loam

Bg horizon:
Hue—horizon has hue of 10YR to 5Y or is neutral in hue
Value—4 to 6
Chroma—0 to 2
Texture—loam, silt loam, sandy clay loam, clay loam, or silty clay loam

Cg horizon:
Hue—horizon has hue of 10YR to 5Y or is neutral in hue
Value—4 to 7
Chroma—0 to 2
Texture—dominantly sandy loam or loam; in some pedons, horizon is stratified and texture includes sand, loamy sand, sandy clay loam, clay loam, or silty clay loam

The Wehadkee soils in Appomattox County differ from the defined Wehadkee series criteria because they typically do not have moderately acid to neutral soil reaction in the 10- to 40-inch control section. This difference, however, does not significantly affect the use and management of the soils.

Wingina Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Recent alluvium
Landform: Flood plains
Slope range: 0 to 2 percent

Associated Soils

• Altavista soils, which have a subsoil that is more developed than that of the Wingina soils and are in stream terrace positions
• Batteau soils, which have iron and manganese depletions and masses in the subsoil and are in the lower flood plain positions
• Yogaville soils, which have iron and manganese depletions in the subsoil and are in the lower flood plain positions

Typical Pedon

Wingina loam, 0 to 2 percent slopes, occasionally flooded; in an area of pasture, 2.1 miles northwest (315 degrees) of the junction of Highways VA-611 and VA-667 and 2.9 miles north (0 degrees) of the junction of Highways VA-611 and VA-721:

Ap—0 to 14 inches; very dark grayish brown (10YR 3/2) broken and dark brown (10YR 3/3) crushed loam, brown (10YR 5/3) dry; moderate medium granular structure; friable, slightly sticky, slightly plastic; few fine and medium roots; common fine flakes of mica; neutral; abrupt smooth boundary.
Bw1—14 to 40 inches; brown (10YR 4/3) loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; common fine flakes of mica; neutral; diffuse smooth boundary.
Bw2—40 to 72 inches; brown (10YR 4/3) loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; common fine flakes of mica; strongly acid.

Range in Characteristics

Thickness of solum: 30 to 60 inches
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent throughout the profile
Reaction: Strongly acid to neutral

A horizon (if it occurs):
Hue—10YR

Value—3 moist, 4 or 5 dry
Chroma—2 or 3
Texture—loam

Ap horizon:
Hue—10YR
Value—3 moist, 4 or 5 dry
Chroma—2 or 3
Texture—loam

Bw horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 or 4
Texture—fine sandy loam, sandy loam, loam, sandy clay loam, or clay loam

C horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 8
Texture—sand, loamy sand, sandy loam, or fine sandy loam; stratified in some pedons

Yogaville Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Recent alluvium
Landform: Flood plains
Slope range: 0 to 2 percent

Associated Soils

- Altavista soils, which do not have iron and manganese depletions in the upper part of the subsoil and are on adjacent stream terraces
- Batteau soils, which do not have iron and manganese depletions in the subsoil and are in landscape positions similar to those of the Yogaville soils
- Wingina soils, which do not have iron and manganese depletions in the upper part of the subsoil and are in the higher flood plain positions

Typical Pedon

Yogaville loam, 0 to 2 percent slopes, frequently flooded; in an area of hayland, about 1.3 miles north-northeast (5 degrees) of the junction of Highways VA-605 and VA-623 and 1.8 miles west (270 degrees) of the junction of Highways VA-605 and VA-623:

Ap—0 to 14 inches; very dark grayish brown (10YR 3/2) broken and dark brown (10YR 3/3) crushed loam, yellowish brown (10YR 5/4) dry; moderate medium granular structure; friable, slightly sticky, slightly plastic; few fine and medium roots; few fine flakes of mica; neutral; abrupt smooth boundary.

Bg1—14 to 32 inches; gray (10YR 6/1) clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; many medium distinct light yellowish brown (2.5Y 6/4) and yellowish red (5YR 4/8) iron and manganese masses; few fine flakes of mica; neutral; clear smooth boundary.

Bg2—32 to 55 inches; gray (10YR 5/1) and yellowish brown (10YR 5/6) silt loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; gray areas are iron and manganese depletions, and brown areas are iron and manganese masses; few fine flakes of mica; slightly acid; clear smooth boundary.

Bg3—55 to 72 inches; gray (10YR 5/1) and yellowish brown (10YR 5/6) loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; gray areas are iron and manganese depletions, and brown areas are iron and manganese masses; masses are common, medium, and prominent; few fine flakes of mica; 5 percent gravel; slightly acid.

Range in Characteristics

Thickness of solum: 30 to 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent throughout the profile
Reaction: Strongly acid to neutral

Ap horizon:
Hue—horizon has hue of 10YR to 5Y or is neutral in hue
Value—3 moist, 4 or 5 dry
Chroma—2 or 3
Texture—loam

Bg horizon:
Hue—horizon has hue of 10YR to 5Y or is neutral in hue
Value—4 to 6
Chroma—0 to 2
Texture—sandy loam, fine sandy loam, loam, silt loam, or clay loam

Cg horizon (if it occurs):
Hue—horizon has hue of 10YR to 5Y or is neutral in hue
Value—4 to 7
Chroma—0 to 2
Texture—sand, loamy sand, sandy loam, or fine sandy loam; stratified in some pedons

Formation of the Soils

This section describes the factors of soil formation and relates them to the soils in the survey area. It also explains the major processes of soil horizon development.

Factors of Soil Formation

The five major factors of soil formation are parent material, topography, climate, living organisms, and time. Topography and parent material are modified over time by the active factors of climate and living organisms.

Parent Material

Parent material is the unconsolidated material in which a soil forms. In Appomattox County, parent materials are residual or transported material.

Residual parent material has weathered in place from the underlying bedrock. Properties of the residual parent material are directly related to the characteristics of the underlying bedrock. Beckham, Cecil, Cullen, Iredell, Louisburg, Manteo, Mayodan, Mecklenburg, Nason, Pacolet, Poindexter, Tatum, and Wedowee soils formed in residuum.

Transported parent material consists of alluvial sediments and colluvial sediments. The alluvial sediments were moved by water and were deposited as mixtures or layers of rock fragments, sand, silt, and clay. They are on flood plains and terraces. Batteau, Chewacla, Riverview, Wehadkee, Wingina, and Yogaville soils formed in recent alluvium on flood plains. Altavista, State, and Turbeville soils formed in alluvial sediments on terraces. The colluvial sediments were moved by gravity, with water acting as the lubricant. They are on upland summits, shoulders, and side slopes. Appomattox and Mattaponi soils formed in colluvium.

Igneous and metamorphic rocks are the two primary types of rock in the county. Igneous rocks formed from the cooling of molten rock material. Examples of igneous rocks in the county are granite and diabase. Metamorphic rocks are igneous or sedimentary rocks that have been altered by heat and pressure. Granite gneiss, mica schist, biotite gneiss, phyllite, sericite schist, quartzite, and marble are examples of metamorphic rock in Appomattox County.

Igneous and metamorphic rocks are subdivided into felsic and mafic rock types. The subdivision is based on the nature and amount of specific minerals in the rocks. Mafic rocks are generally richer in calcium and magnesium than felsic rocks. Soils that formed from felsic rocks, such as granite, granite gneiss, biotite gneiss, and mica schist, are Cecil, Wedowee, and Louisburg soils. Iredell and Mecklenburg soils formed from mafic rocks, such as hornblende gneiss and chloritic schist.

Topography

Topography affects the formation of soils by influencing the rate of infiltration, the rate of surface runoff, soil drainage, geologic erosion, and soil temperature. It can alter the effects of the other soil-forming factors to the extent that several different kinds of soil can form from the same parent material. Differences in topography can cause the same parent material to weather at different rates, thus affecting the impact of plants and animals on soil formation.

Physiographically, Appomattox County is located within the Piedmont. The elevation of the county ranges from about 370 to 1,150 feet above sea level. The gradient of the Piedmont upland is about 5 feet per mile. Stream gradients in the survey area are generally about 2 to 15 feet per mile.

The county generally consists of gently sloping to steep, intermediate to broad ridges. The gently sloping areas have medium rates of runoff and a good rate of water infiltration. The steep areas commonly have rapid rates of runoff and a poor rate of water infiltration. The steeper soils have less development in the subsoil than the less sloping soils. Pacolet, Poindexter, and Wedowee soils are examples of less developed soils. The lesser degree of development is commonly due to the effects of relief on erosional forces.

Climate

Climate determines, to a large extent, the rate and degree of weathering of the parent material. It also determines the kind and amount of biological activity and influences the type of weathering, chemical or physical, that parent material undergoes.

Chemical weathering of parent material occurs more rapidly under a warm, humid environment, such as that of Appomattox County, than under a cold, dry climate. Physical weathering is more pronounced under the colder, dryer climates. Although landscape position and slope modify the influence of climate, their effects do not account for major differences among the soils of the survey area. The amount of precipitation and the movement of the water through the soil greatly affect the translocation of clays and the movement of minerals out of the zone of biological activity. The climate of the Piedmont causes rapid weathering of parent material and thus promotes the movement of clays and minerals. Weathering, translocation of clays, and leaching of minerals take place most of the year. The relative influence of each on the soil determines the main characteristics of the soil.

Living Organisms

Plants and animals are the main source of organic matter in the soils. Organic matter decomposes and is incorporated into the soil by the action of micro-organisms and earthworms and, to a lesser degree, by windthrown trees and burrowing animals.

In the Piedmont, the warm, humid environment, the adequate supply of moisture, and the abundance of micro-organisms prevent the accumulation of large amounts of organic matter. Earthworms, burrowing animals, and plant roots help to keep the soil aerated. Plant roots also help in soil formation by penetrating cracks and breaking up the underlying bedrock.

Cultivation, drainage, irrigation, use of new types of vegetation, applications of lime and fertilizer, and use of herbicides and pesticides are some of the ways that humans have influenced the rate of soil development in the survey area. In most of Appomattox County, human influence has caused an increase in erosion.

Time

Time is needed for changes to take place in the parent material. Because of the other soil-forming factors, however, soils that formed in the same type of parent material and for the same amount of time may not be equally developed. Runoff and erosion, which hinder the development of well expressed soil horizons, are greater on the steeper slopes. Thus, soils on the steeper slopes generally are less developed than soils on the less steep slopes even though they formed in the same parent material. For example, the moderately deep Louisburg soils on moderately steep and steep side slopes are less developed than the very deep Cecil soils on gently sloping summits and shoulders.

Soils that formed in weather-resistant parent material do not develop as rapidly as soils that form in parent material that is less resistant to weathering. Soils on flood plains, such as Chewacla and Riverview soils, commonly have weakly defined layers because they are subject to the constant deposition of sediment.

Processes of Soil Horizon Differentiation

Several processes are involved in the formation of soil horizons. Among these are the accumulation of organic matter, the leaching of soluble salts, the reduction and transfer of iron, the formation of soil structure, and the formation and translocation of clay minerals. These processes occur continually and simultaneously. They have been taking place for thousands of years.

Organic matter accumulates as plant and animal material decomposes. It darkens the surface layer and helps to form the A horizon. Once organic matter is lost, it normally takes a long time to replace. The content of organic matter in the surface layer of the soils in Appomattox County averages about 1.5 percent.

Soils that have distinct subsoil horizons were leached of some of the lime and soluble salts before the clay minerals moved downward. Some of the factors that affect this leaching are the kinds of salts originally present, the depth to which the soil solution percolates, and the texture of the soil profile.

In Appomattox County, well drained and moderately well drained soils have a red to yellowish brown subsoil. These colors are caused mainly by thin coatings of iron oxide on sand and silt grains, but in some soils the colors are inherited from the materials in which the soils formed. The structure in these soils is weak to strong subangular blocky, and the subsoil contains more clay than the surface layer.

The reduction and transfer of iron, called gleying, is associated mainly with wet, poorly drained soils.

Moderately well drained and somewhat poorly drained soils have red, yellowish red, and yellowish brown iron and manganese accumulations and gray iron and manganese depletions. This indicates the segregation of iron or manganese, or both, due to a fluctuating water table. In poorly drained soils, such as Wehadkee soils, the subsoil and underlying material are gray. This indicates the reduction and transfer of iron or manganese, or both, in solution.

References

(1) American Association of State Highway and Transportation Officials. 1986. Standard specifications for highway materials and methods of sampling and testing. Ed. 14, 2 vols.

(2) American Society for Testing and Materials. 1993. Standard classification of soils for engineering purposes. ASTM Stand. D 2487.

(3) United States Department of Agriculture, Soil Conservation Service. 1975. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. U.S. Dep. Agric. Handb. 436.

(4) United States Department of Agriculture, Soil Conservation Service. 1993. Soil survey manual. Soil Surv. Staff, U.S. Dep. Agric. Handb. 18.

Glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Back slope. The geomorphic component that forms the steepest inclined surface and principal element of many hillsides. Back slopes in profile are commonly steep, are linear, and may or may not include cliff segments.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bottom land. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Channery soil material. Soil material that is, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Coarse fragments. If round, mineral or rock particles

2 millimeters to 25 centimeters (10 inches) in diameter; if flat, mineral or rock particles (flagstone) 15 to 38 centimeters (6 to 15 inches) long.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Colluvium. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fertility, soil. The quality that enables a soil to provide

plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Foot slope. The inclined surface at the base of a hill.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A very small channel with steep sides cut by running water and through which water ordinarily runs only after rainfall, icemelt, or snowmelt. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

Head slope. A concave, horseshoe-shaped slope on a mountain landscape at the head of an intermittent drainageway.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A horizon to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Interfluve. A relatively undissected upland hill, ridge, or mountain lying between two adjacent valleys that have streams which flow in the same general direction.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nose slope. The downward-sloping convex end of a main ridge or spur ridge.

Nutrient, plant. Any element taken in by a plant

essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse-grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. They indicate chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. They indicate the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation. Descriptive terms for concentrations and depletions are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Rippable. Rippable bedrock or hardpan can be excavated using a single-tooth ripping attachment mounted on a tractor with a 200-300 drawbar horsepower rating.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments ranging from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The landscape position, parallel to the summit, that is directly below the ridgetop and directly above the side slope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. The landscape position that is directly below the shoulder and directly above the toe slope. It makes up most of the mountainside or hillside.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical

distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of rock fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to soil blowing and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects from soil blowing and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. A general term for the top, or highest level, of an upland feature, such as a hill, ridge, or mountain. It commonly refers to a higher area that has a gentle slope and is flanked by steeper slopes.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Terrace riser. A slight elevation of the land surface; commonly associated with terrace escarpments.

Terrace tread. The broad crest of the land surface of a terrace.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy*

loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toe slope. The outermost inclined surface at the base of a hill; part of a foot slope.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse-grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Tables

Table 1.—Temperature and Precipitation

(Recorded in the period 1961-89 at Appomattox, Virginia)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January	43.5	23.0	33.2	60	10	42	2.75	3.84	1.34	6	6
February	46.3	24.7	35.5	60	15	55	3.06	4.40	1.63	6	5
March	56.9	33.6	45.2	72	22	200	3.68	4.55	2.50	7	3
April	67.2	42.4	54.8	82	30	437	3.48	4.74	2.09	7	0
May	75.6	51.5	63.6	85	40	731	3.90	5.04	1.96	7	0
June	82.6	59.8	71.2	90	50	930	3.28	5.06	1.31	6	0
July	86.4	64.0	75.2	92	56	1,086	4.17	5.41	2.57	7	0
August	85.1	63.1	74.1	90	56	1,048	4.21	6.56	1.77	7	0
September	78.8	56.0	67.4	88	46	795	3.61	6.35	1.41	5	0
October	68.1	43.1	55.6	78	31	485	3.48	4.96	1.35	5	0
November	58.5	35.8	47.1	71	25	242	3.40	4.95	1.38	6	1
December	47.7	26.7	37.2	60	16	83	3.15	4.66	1.17	6	2
Yearly:											
Average	66.4	43.6	55.0	---	---	---	---	---	---	---	---
Extreme	---	---	---	103	-8	---	---	---	---	---	---
Total	---	---	---	---	---	6,132	42.16	60.52	20.48	74	17

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1962-89 at Appomattox, Virginia)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Mar. 27	Apr. 11	May 2
2 years in 10 later than--	Mar. 23	Apr. 3	Apr. 17
5 years in 10 later than--	Mar. 6	Mar. 25	Apr. 8
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 25	Oct. 19	Oct. 5
2 years in 10 earlier than--	Nov. 3	Oct. 20	Oct. 8
5 years in 10 earlier than--	Nov. 19	Nov. 3	Oct. 20

Table 3.—Growing Season

(Recorded in the period 1962-89 at Appomattox, Virginia)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	226	193	173
8 years in 10	232	205	180
5 years in 10	251	221	193
2 years in 10	337	337	337
1 year in 10	339	339	338

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1A	Altavista loam, 0 to 2 percent slopes, occasionally flooded	1,551	0.7
2B	Appomattox-Cullen complex, 2 to 7 percent slopes	4,850	2.3
2C	Appomattox-Cullen complex, 7 to 15 percent slopes	806	0.4
3A	Batteau loam, 0 to 2 percent slopes, frequently flooded	128	0.1
4B	Beckham clay loam, 2 to 7 percent slopes	69	*
4C	Beckham clay loam, 7 to 15 percent slopes	68	*
4D	Beckham clay loam, 15 to 25 percent slopes	34	*
5B	Cecil sandy loam, 2 to 7 percent slopes	17,883	8.3
6A	Chewacla loam, 0 to 2 percent slopes, frequently flooded	12,265	5.7
7B	Cullen clay loam, 2 to 7 percent slopes	12,349	5.7
8B	Iredell loam, 2 to 7 percent slopes	7,568	3.5
8C	Iredell loam, 7 to 15 percent slopes	2,793	1.3
9E	Louisburg gravelly coarse sandy loam, 25 to 50 percent slopes	2,780	1.3
10E	Manteo-Rock outcrop complex, 7 to 60 percent slopes	248	0.1
11E	Manteo very channery loam, 25 to 60 percent slopes	6,821	3.2
12B	Mattaponi-Cecil complex, 2 to 7 percent slopes	5,041	2.3
12C	Mattaponi-Cecil complex, 7 to 15 percent slopes	876	0.4
13B	Mayodan gravelly sandy loam, 2 to 7 percent slopes	265	0.1
13C	Mayodan gravelly sandy loam, 7 to 15 percent slopes	233	0.1
13D	Mayodan gravelly sandy loam, 15 to 25 percent slopes	143	0.1
14B	Mecklenburg loam, 2 to 7 percent slopes	3,822	1.8
15B	Mecklenburg-Poindexter complex, 2 to 7 percent slopes	509	0.2
15C	Mecklenburg-Poindexter complex, 7 to 15 percent slopes	23,018	10.7
15D	Mecklenburg-Poindexter complex, 15 to 25 percent slopes	9,867	4.6
16B	Nason gravelly loam, 2 to 7 percent slopes	369	0.2
17B	Nason-Manteo complex, 2 to 7 percent slopes	383	0.2
17C	Nason-Manteo complex, 7 to 15 percent slopes	589	0.3
17D	Nason-Manteo complex, 15 to 25 percent slopes	266	0.1
18B	Pacolet-Louisburg complex, 2 to 7 percent slopes	597	0.3
18C	Pacolet-Louisburg complex, 7 to 15 percent slopes	17,460	8.1
18D	Pacolet-Louisburg complex, 15 to 25 percent slopes	7,943	3.7
19E	Poindexter gravelly silt loam, 25 to 60 percent slopes	3,942	1.8
20A	Riverview loam, 0 to 2 percent slopes, occasionally flooded	1,996	0.9
21A	State loam, 0 to 2 percent slopes, rarely flooded	216	0.1
22B	Tatum-Manteo complex, 2 to 7 percent slopes	422	0.2
22C	Tatum-Manteo complex, 7 to 15 percent slopes	22,482	10.4
22D	Tatum-Manteo complex, 15 to 25 percent slopes	10,126	4.7
23B	Tatum silt loam, 2 to 7 percent slopes	24,136	11.2
24B	Turbeville loam, 2 to 7 percent slopes	276	0.1
24C	Turbeville loam, 7 to 15 percent slopes	173	0.1
25B	Turbeville-Tatum complex, 2 to 7 percent slopes	501	0.2
25C	Turbeville-Tatum complex, 7 to 15 percent slopes	509	0.2
25D	Turbeville-Tatum complex, 15 to 25 percent slopes	538	0.3
26	Udorthents-Urban land complex, 0 to 15 percent slopes	402	0.2
27B	Wedowee sandy loam, 2 to 7 percent slopes	1,182	0.5
28C	Wedowee-Louisburg complex, 7 to 15 percent slopes	1,678	0.8
28D	Wedowee-Louisburg complex, 15 to 25 percent slopes	914	0.4
29A	Wehadkee loam, 0 to 2 percent slopes, frequently flooded	2,672	1.2
30A	Wingina loam, 0 to 2 percent slopes, occasionally flooded	297	0.1
31A	Yogaville loam, 0 to 2 percent slopes, frequently flooded	182	0.1
	Water	962	0.4
	Total	215,200	100.0

* Less than 0.1 percent.

Table 5.—Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Soil name and map symbol	Land capability	Corn	Tobacco	Wheat	Soybeans	Oats	Grass-legume hay	Pasture
		Bu	Lbs	Bu	Bu	Bu	Tons	AUM*
1A—Altavista	IIe	115	---	55	38	---	4.3	11.5
2B—Appomattox-Cullen	IIe	115	---	48	38	---	3.4	8.2
2C—Appomattox-Cullen	IIIe	110	---	38	31	---	3.0	7.6
3A—Batteau	IIIw	80	---	35	50	---	3.0	8.3
4B—Beckham	IIIe	75	---	40	30	---	3.0	8.5
4C—Beckham	IVe	50	---	30	25	---	2.8	7.5
4D—Beckham	VIe	---	---	---	---	---	2.0	4.5
5B—Cecil	IIe	95	1,800	48	35	90	3.2	8.0
6A—Chewacla	IVw	80	---	30	30	40	4.0	9
7B—Cullen	IIIe	110	---	45	35	65	3.2	8.3
8B—Iredell	IIe	65	---	---	---	---	---	---
8C—Iredell	VIe	60	---	---	---	---	---	---
9E—Louisburg	VIIe	---	---	---	---	---	---	---
10E**. Manteo-Rock outcrop								
11E—Manteo	VIIs	---	---	---	---	---	---	---
12B—Mattaponi-Cecil	---	110	2,150	48	32	78	3.4	6.8
12C—Mattaponi-Cecil	---	105	1,950	38	22	60	2.6	5.2
13B—Mayodan	IIe	95	1,800	45	30	85	4.8	8.0

See footnotes at end of table.

Table 5.—Land Capability and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn	Tobacco	Wheat	Soybeans	Oats	Grass-legume hay	Pasture
		Bu	Lbs	Bu	Bu	Bu	Tons	AUM*
13C—Mayodan	IVe	75	1,700	45	30	60	4.2	7.0
13D—Mayodan	VIe	---	---	---	---	---	3.6	6.0
14B—Mecklenburg	IIe	115	---	45	40	70	3.6	6.0
15B—Mecklenburg-Poindexter	---	90	---	40	30	64	2.9	5.6
15C—Mecklenburg-Poindexter	---	85	---	40	30	58	2.5	4.8
15D—Mecklenburg-Poindexter	---	---	---	---	---	---	2.3	4.2
16B—Nason	IIe	90	---	45	30	70	3.0	8.0
17B—Nason-Manteo	---	60	---	---	---	---	2.4	4.5
17C—Nason-Manteo	---	50	---	---	---	---	2.0	4.0
17D—Nason-Manteo	---	---	---	---	---	---	2.0	4.0
18B—Pacolet-Louisburg	---	60	1,300	40	25	55	3.0	6.5
18C—Pacolet-Louisburg	---	55	1,250	40	25	55	3.0	6.5
18D—Pacolet-Louisburg	---	---	---	---	---	---	3.0	6.5
19E—Poindexter	VIIe	---	---	---	---	---	---	---
20A—Riverview	IIw	130	---	55	40	90	5.6	12.0
21A—State	I	130	---	60	45	85	5.1	12.0
22B—Tatum-Manteo	---	70	1,000	---	---	---	2.4	4.5
22C—Tatum-Manteo	---	65	1,000	---	---	---	2.4	4.5

See footnotes at end of table.

Table 5.—Land Capability and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn	Tobacco	Wheat	Soybeans	Oats	Grass-legume hay	Pasture
		Bu	Lbs	Bu	Bu	Bu	Tons	AUM*
22D---------- Tatum-Manteo	---	---	---	---	---	---	2.0	4.0
23B---------- Tatum	IIe	90	1,200	50	30	70	3.0	8.0
24B---------- Turbeville	IIe	120	---	50	40	75	4.0	9.5
24C---------- Turbeville	IIIe	110	---	50	35	75	3.5	9.0
25B---------- Turbeville-Tatum	---	105	---	50	35	73	3.5	9.0
25C---------- Turbeville-Tatum	---	98	---	48	30	71	3.1	7.0
25D---------- Turbeville-Tatum	---	---	---	---	---	---	2.0	4.0
26**. Udorthents-Urban land								
27B---------- Wedowee	IIe	80	1,800	45	35	80	3.2	8.5
28C---------- Wedowee-Louisburg	---	60	1,700	40	30	75	3.0	8.0
28D---------- Wedowee-Louisburg	---	---	---	---	---	---	2.5	5.0
29A---------- Wehadkee	VIw	---	---	---	---	---	---	8.5
30A---------- Wingina	I	130	---	50	60	75	3.5	9.7
31A---------- Yogaville	VIw	50	---	---	---	---	3.0	8.3

* Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

** See description of the map unit for composition and behavior characteristics of the map unit.

Table 6.—Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland)

Map symbol	Soil name
1A	Altavista loam, 0 to 2 percent slopes, occasionally flooded
2B	Appomattox-Cullen complex, 2 to 7 percent slopes
4B	Beckham clay loam, 2 to 7 percent slopes
5B	Cecil sandy loam, 2 to 7 percent slopes
7B	Cullen clay loam, 2 to 7 percent slopes
12B	Mattaponi-Cecil complex, 2 to 7 percent slopes
13B	Mayodan gravelly sandy loam, 2 to 7 percent slopes
14B	Mecklenburg loam, 2 to 7 percent slopes
15B	Mecklenburg-Poindexter complex, 2 to 7 percent slopes
16B	Nason gravelly loam, 2 to 7 percent slopes
20A	Riverview loam, 0 to 2 percent slopes, occasionally flooded
21A	State loam, 0 to 2 percent slopes, rarely flooded
23B	Tatum silt loam, 2 to 7 percent slopes
24B	Turbeville loam, 2 to 7 percent slopes
25B	Turbeville-Tatum complex, 2 to 7 percent slopes
27B	Wedowee sandy loam, 2 to 7 percent slopes
30A	Wingina loam, 0 to 2 percent slopes, occasionally flooded

Table 7.—Woodland Management and Productivity

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available)

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
1A Altavista	9A	Slight	Slight	Slight	Slight	Loblolly pine Longleaf pine White oak Shortleaf pine Sweetgum Red maple Yellow-poplar Southern red oak Water oak American beech Hickory	91 87 77 --- --- --- --- --- --- --- ---	9 8 4 --- --- --- --- --- --- --- ---	Loblolly pine.
2B**, 2C**: Appomattox	2C	Slight	Moderate	Slight	Slight	Northern red oak Yellow-poplar Eastern white pine Virginia pine Loblolly pine Shortleaf pine	70 90 95 76 80 76	4 6 12 8 8 8	Yellow-poplar, loblolly pine.
Cullen	8A	Slight	Moderate	Slight	Slight	Loblolly pine Shortleaf pine Yellow-poplar Northern red oak	80 70 80 70	8 8 5 4	Loblolly pine, eastern white pine.
3A Batteau	11W	Slight	Slight	Slight	Slight	Loblolly pine Yellow-poplar Sweetgum Green ash Red maple American sycamore	100 100 110 --- --- ---	11 10 9 --- --- ---	American sycamore, yellow-poplar, loblolly pine.
4B, 4C Beckham	8A	Slight	Slight	Moderate	Slight	Loblolly pine Shortleaf pine Yellow-poplar Virginia pine	66 90 80 70	7 6 8 8	Yellow-poplar, loblolly pine, shortleaf pine.
4D Beckham	8A	Moderate	Moderate	Moderate	Slight	Loblolly pine Shortleaf pine Yellow-poplar Virginia pine	66 90 80 70	7 6 8 8	Yellow-poplar, loblolly pine, shortleaf pine.
5B Cecil	8A	Slight	Slight	Slight	Slight	Loblolly pine Shortleaf pine Virginia pine White oak Northern red oak Southern red oak Post oak Scarlet oak Sweetgum Yellow-poplar	83 69 71 79 81 79 72 81 76 92	8 8 8 4 4 4 4 4 5 6	Loblolly pine, shortleaf pine.

See footnotes at end of table.

Table 7.—Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
6A---------- Chewacla	10W	Slight	Moderate	Slight	Moderate	Loblolly pine-------	95	10	Yellow-poplar, loblolly pine, sweetgum, American sycamore.
						Yellow-poplar-------	95	7	
						Sweetgum------------	97	9	
						Water oak-----------	80	5	
7B---------- Cullen	8A	Slight	Moderate	Slight	Slight	Loblolly pine-------	80	8	Loblolly pine, eastern white pine.
						Shortleaf pine------	70	8	
						Yellow-poplar-------	80	5	
						Northern red oak----	70	4	
8B, 8C---------- Iredell	6C	Slight	Moderate	Moderate	Slight	Loblolly pine-------	67	6	Loblolly pine, eastern redcedar.
						Shortleaf pine------	58	6	
						Post oak------------	44	2	
						White oak-----------	47	2	
9E---------- Louisburg	7R	Moderate	Moderate	Slight	Severe	Loblolly pine-------	77	7	Loblolly pine, slash pine, Virginia pine, yellow-poplar.
						Shortleaf pine------	69	8	
						Southern red oak----	72	4	
						Yellow-poplar-------	84	6	
						Virginia pine-------	71	8	
						White oak-----------	68	4	
10E**:									
Manteo---------	6D	Moderate	Moderate	Severe	Moderate	Loblolly pine-------	70	6	Loblolly pine, shortleaf pine.
						Virginia pine-------	65	7	
						Shortleaf pine------	60	6	
						Northern red oak----	65	3	
Rock outcrop.									
11E---------- Manteo	6R	Severe	Severe	Severe	Moderate	Loblolly pine-------	70	6	Loblolly pine, shortleaf pine.
						Virginia pine-------	65	7	
						Shortleaf pine------	60	6	
						Northern red oak----	65	3	
12B**, 12C**:									
Mattaponi------	8A	Slight	Slight	Slight	Slight	Loblolly pine-------	80	8	Loblolly pine, shortleaf pine.
						White oak-----------	70	4	
						Virginia pine-------	70	8	
						Sweetgum------------	76	5	
Cecil----------	8A	Slight	Slight	Slight	Slight	Loblolly pine-------	83	8	Loblolly pine, shortleaf pine.
						Shortleaf pine------	69	8	
						Virginia pine-------	71	8	
						White oak-----------	79	4	
						Northern red oak----	81	4	
						Southern red oak----	79	4	
						Post oak------------	72	4	
						Scarlet oak---------	81	4	
						Sweetgum------------	76	5	
						Yellow-poplar-------	92	6	
13B, 13C-------- Mayodan	9A	Slight	Slight	Slight	Slight	Loblolly pine-------	87	9	Loblolly pine.
						Shortleaf pine------	70	8	
						Virginia pine-------	60	6	
						White oak-----------	54	3	

See footnotes at end of table.

Table 7.—Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
13D---------- Mayodan	9R	Moderate	Moderate	Slight	Slight	Loblolly pine------- Shortleaf pine------ Virginia pine------- White oak-----------	87 70 60 54	9 8 6 3	Loblolly pine.
14B---------- Mecklenburg	8A	Slight	Slight	Slight	Slight	Loblolly pine------- Shortleaf pine------ Virginia pine------- Yellow-poplar-------	79 64 62 97	8 7 7 7	Loblolly pine, shortleaf pine.
15B**, 15C**: Mecklenburg----	8A	Slight	Slight	Slight	Slight	Loblolly pine------- Shortleaf pine------ Virginia pine------- Yellow-poplar-------	79 64 62 97	8 7 7 7	Loblolly pine, shortleaf pine.
Poindexter----- 15D**:	6A	Slight	Slight	Slight	Slight	Loblolly pine------- Shortleaf pine------ Virginia pine------- Southern red oak----	70 60 65 60	6 6 7 3	Loblolly pine, shortleaf pine.
Mecklenburg----	8R	Moderate	Moderate	Slight	Slight	Loblolly pine------- Shortleaf pine------ Virginia pine------- Yellow-poplar-------	79 64 62 97	8 7 7 7	Loblolly pine, shortleaf pine.
Poindexter----- 16B----------	6R	Moderate	Moderate	Slight	Slight	Loblolly pine------- Shortleaf pine------ Virginia pine------- Southern red oak----	70 60 65 60	6 6 7 3	Loblolly pine, shortleaf pine.
Nason 17B**, 17C**:	8A	Slight	Slight	Slight	Slight	Loblolly pine------- Northern red oak---- Virginia pine------- Shortleaf pine------	85 66 69 66	8 3 8 7	Loblolly pine.
Nason---------- Manteo---------	8A 6D	Slight Slight	Slight Slight	Slight Severe	Slight Moderate	Loblolly pine------- Northern red oak---- Virginia pine------- Shortleaf pine------ Loblolly pine------- Virginia pine------- Shortleaf pine------ Northern red oak----	85 66 69 66 70 65 60 65	8 3 8 7 6 7 6 3	Loblolly pine. Loblolly pine, shortleaf pine.
17D**: Nason---------- Manteo---------	8R 6D	Moderate Moderate	Moderate Moderate	Slight Severe	Slight Moderate	Loblolly pine------- Northern red oak---- Virginia pine------- Shortleaf pine------ Loblolly pine------- Virginia pine------- Shortleaf pine------ Northern red oak----	85 66 69 66 70 65 60 65	8 3 8 7 6 7 6 3	Loblolly pine. Loblolly pine, shortleaf pine.

See footnotes at end of table.

Table 7.—Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
18B**, 18C**:									
Pacolet	8A	Slight	Slight	Slight	Slight	Loblolly pine	78	8	Loblolly pine, shortleaf pine, yellow-poplar, eastern white pine.
						Shortleaf pine	70	8	
						Yellow-poplar	90	6	
						Virginia pine	---	---	
						Northern red oak	---	---	
						Hickory	---	---	
						White oak	---	---	
Louisburg	7A	Slight	Slight	Slight	Severe	Loblolly pine	77	7	Loblolly pine, slash pine, Virginia pine, yellow-poplar.
						Shortleaf pine	69	8	
						Southern red oak	72	4	
						Yellow-poplar	84	6	
						Virginia pine	71	8	
						White oak	68	4	
18D**:									
Pacolet	8R	Moderate	Moderate	Slight	Slight	Loblolly pine	78	8	Loblolly pine, shortleaf pine, yellow-poplar, eastern white pine.
						Shortleaf pine	70	8	
						Yellow-poplar	90	6	
Louisburg	7R	Moderate	Moderate	Slight	Severe	Loblolly pine	77	7	Loblolly pine, slash pine, Virginia pine, yellow-poplar.
						Shortleaf pine	69	8	
						Southern red oak	72	4	
						Yellow-poplar	84	6	
						Virginia pine	71	8	
						White oak	68	4	
19E	6R	Severe	Severe	Slight	Slight	Loblolly pine	70	6	Loblolly pine, shortleaf pine.
Poindexter						Shortleaf pine	60	6	
						Virginia pine	65	7	
						Southern red oak	60	3	
20A	11A	Slight	Slight	Slight	Slight	Loblolly pine	100	11	Loblolly pine, yellow-poplar, sweetgum, slash pine, eastern cottonwood, American sycamore.
Riverview						Yellow-poplar	110	9	
						Sweetgum	100	10	
21A	9A	Slight	Slight	Slight	Slight	Loblolly pine	86	9	Loblolly pine, black walnut, yellow-poplar.
State						Southern red oak	85	5	
						Yellow-poplar	100	8	
						Virginia pine	85	9	
22B**, 22C**:									
Tatum	8A	Slight	Slight	Slight	Slight	Loblolly pine	78	8	Loblolly pine, eastern white pine, yellow-poplar.
						Northern red oak	72	4	
						Virginia pine	68	7	
						Yellow-poplar	83	5	
Manteo	6D	Slight	Slight	Severe	Moderate	Loblolly pine	70	6	Loblolly pine, shortleaf pine.
						Virginia pine	65	7	
						Shortleaf pine	60	6	
						Northern red oak	65	3	

See footnotes at end of table.

Table 7.—Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
22D**:									
Tatum	8R	Moderate	Moderate	Slight	Slight	Loblolly pine	78	8	Loblolly pine.
						White oak	65	3	
						Chestnut oak	68	7	
						Virginia pine	68	7	
Manteo	6D	Moderate	Moderate	Severe	Moderate	Loblolly pine	70	6	Loblolly pine,
						Virginia pine	65	7	shortleaf
						Shortleaf pine	60	6	pine.
						Northern red oak	65	3	
23B	8A	Slight	Slight	Slight	Slight	Loblolly pine	78	8	Loblolly pine,
Tatum						Northern red oak	72	4	eastern white
						Virginia pine	68	7	pine, yellow-
						Yellow-poplar	83	5	poplar.
24B	8A	Slight	Slight	Slight	Slight	Loblolly pine	80	8	Loblolly pine,
Turbeville						Yellow-poplar	84	6	yellow-poplar.
						Virginia pine	70	8	
						Shortleaf pine	70	8	
						Southern red oak	70	4	
25B**:									
Turbeville	8A	Slight	Slight	Slight	Slight	Loblolly pine	80	8	Loblolly pine,
						Yellow-poplar	84	6	yellow-poplar.
						Virginia pine	70	8	
						Shortleaf pine	70	8	
						Southern red oak	70	4	
Tatum	8A	Slight	Slight	Slight	Slight	Loblolly pine	78	8	Loblolly pine,
						Northern red oak	72	4	eastern white
						Virginia pine	68	7	pine, yellow-
						Yellow-poplar	83	5	poplar.
25C**:									
Turbeville.									
Tatum	8A	Slight	Slight	Slight	Slight	Loblolly pine	78	8	Loblolly pine,
						Northern red oak	72	4	eastern white
						Virginia pine	68	7	pine, yellow-
						Yellow-poplar	83	5	poplar.
25D**:									
Turbeville	8R	Moderate	Moderate	Slight	Slight	Loblolly pine	80	8	Loblolly pine,
						Yellow-poplar	84	6	yellow-poplar.
						Virginia pine	70	8	
						Shortleaf pine	70	8	
						Southern red oak	70	4	
Tatum	8R	Moderate	Moderate	Slight	Slight	Loblolly pine	78	8	Loblolly pine.
						White oak	65	3	
						Chestnut oak	68	7	
						Virginia pine	68	7	

See footnotes at end of table.

Table 7.—Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	Productivity class*	
27B---------- Wedowee	8A	Slight	Slight	Slight	Slight	Loblolly pine-------	80	8	Loblolly pine,
						Virginia pine-------	70	8	Virginia pine,
						Shortleaf pine------	70	8	shortleaf
						Southern red oak----	70	4	pine, yellow-
						Northern red oak----	70	4	poplar.
						White oak-----------	65	3	
28C**:									
Wedowee--------	8A	Slight	Slight	Slight	Slight	Loblolly pine-------	80	8	Loblolly pine,
						Virginia pine-------	70	8	Virginia pine,
						Shortleaf pine------	70	8	shortleaf
						Southern red oak----	70	4	pine, yellow-
						Northern red oak----	70	4	poplar.
						White oak-----------	65	3	
Louisburg------	7A	Slight	Slight	Slight	Severe	Loblolly pine-------	77	7	Loblolly pine,
						Shortleaf pine------	69	8	slash pine,
						Southern red oak----	72	4	Virginia pine,
						Yellow-poplar-------	84	6	yellow-poplar.
						Virginia pine-------	71	8	
						White oak-----------	68	4	
28D**:									
Wedowee--------	8R	Moderate	Moderate	Slight	Slight	Loblolly pine-------	80	8	Loblolly pine,
						Virginia pine-------	70	8	Virginia pine,
						Shortleaf pine------	70	8	shortleaf
						Southern red oak----	70	4	pine, yellow-
						Northern red oak----	70	4	poplar.
						White oak-----------	65	3	
Louisburg------	7R	Moderate	Moderate	Slight	Severe	Loblolly pine-------	77	7	Loblolly pine,
						Shortleaf pine------	69	8	slash pine,
						Southern red oak----	72	4	Virginia pine,
						Yellow-poplar-------	84	6	yellow-poplar.
						Virginia pine-------	71	8	
						White oak-----------	68	4	
29A---------- Wehadkee	8W	Slight	Severe	Moderate	Moderate	Yellow-poplar-------	100	8	Yellow-poplar,
						Sweetgum------------	94	8	loblolly pine,
						Loblolly pine-------	93	10	green ash,
						Willow oak----------	110	8	sweetgum.
						Water oak-----------	91	6	
30A---------- Wingina	11A	Slight	Slight	Slight	Slight	Loblolly pine-------	100	11	Loblolly pine,
						Yellow-poplar-------	110	9	yellow-poplar,
						Sweetgum------------	100	10	sweetgum,
						River birch---------	---	---	American
						Green ash-----------	---	---	sycamore,
						American sycamore---	---	---	green ash,
									black walnut.
31A---------- Yogaville	8W	Slight	Moderate	Moderate	Moderate	Yellow-poplar-------	100	8	Yellow-poplar,
						Sweetgum------------	94	8	sweetgum,
									American
									sycamore,
									loblolly pine.

* Productivity class is the yield in cubic meters per hectare per year calculated at the age of culmination of mean annual increment for fully stocked natural stands.

** See description of the map unit for composition and behavior characteristics of the map unit.

Table 8.—Recreational Development

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
1A Altavista	Severe: flooding.	Moderate: wetness.	Moderate: slope, wetness, flooding.	Moderate: wetness.	Moderate: wetness, flooding.
2B*: Appomattox	Moderate: small stones, percs slowly.	Moderate: small stones, percs slowly.	Severe: small stones.	Slight	Moderate: small stones.
Cullen	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
2C*: Appomattox	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight	Moderate: small stones, slope.
Cullen	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
3A Batteau	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: wetness, flooding.	Moderate: wetness, flooding.	Severe: flooding.
4B Beckham	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
4C Beckham	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
4D Beckham	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
5B Cecil	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
6A Chewacla	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
7B Cullen	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
8B Iredell	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
8C Iredell	Severe: wetness.	Moderate: slope, wetness.	Severe: slope, wetness.	Moderate: wetness.	Moderate: wetness, slope.

See footnote at end of table.

Table 8.—Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
9E Louisburg	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
10E*: Manteo	Severe: slope, small stones, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope.	Severe: thin layer, small stones, slope.
Rock outcrop	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope.	Severe: depth to rock.
11E Manteo	Severe: slope, small stones, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope.	Severe: thin layer, small stones, slope.
12B*: Mattaponi	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Slight	Slight.
Cecil	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
12C*: Mattaponi	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight	Moderate: slope.
Cecil	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
13B Mayodan	Moderate: small stones.	Moderate: small stones.	Moderate: slope.	Slight	Moderate: small stones.
13C Mayodan	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope.	Slight	Moderate: small stones, slope.
13D Mayodan	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
14B Mecklenburg	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones.	Slight	Slight.
15B*: Mecklenburg	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones.	Slight	Slight.
Poindexter	Severe: small stones.	Severe: small stones.	Severe: small stones.	Slight	Severe: small stones.

See footnote at end of table.

Table 8.—Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
15C*:					
Mecklenburg	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
Poindexter	Severe: small stones.	Severe: small stones.	Severe: slope, small stones.	Slight	Severe: small stones.
15D*:					
Mecklenburg	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Poindexter	Severe: slope, small stones.	Severe: slope, small stones.	Severe: slope, small stones.	Moderate: slope.	Severe: small stones, slope.
16B					
Nason	Moderate: small stones.	Moderate: small stones.	Severe: small stones.	Slight	Moderate: small stones, large stones.
17B*:					
Nason	Moderate: small stones.	Moderate: small stones.	Severe: small stones.	Slight	Moderate: small stones, large stones.
Manteo	Severe: small stones, depth to rock.	Severe: small stones, depth to rock.	Severe: small stones, depth to rock.	Moderate: large stones.	Severe: thin layer, small stones.
17C*:					
Nason	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight	Moderate: small stones, large stones, slope.
Manteo	Severe: small stones, depth to rock.	Severe: small stones, depth to rock.	Severe: slope, small stones, depth to rock.	Moderate: large stones.	Severe: thin layer, small stones.
17D*:					
Nason	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
Manteo	Severe: slope, small stones, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope, small stones, depth to rock.	Moderate: large stones, slope.	Severe: thin layer, small stones, slope.
18B*:					
Pacolet	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
Louisburg	Moderate: small stones.	Slight	Severe: small stones.	Slight	Moderate: small stones, droughty.

See footnote at end of table.

Table 8.—Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
18C*:					
Pacolet	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
Louisburg	Moderate: slope, small stones.	Moderate: slope.	Severe: slope, small stones.	Slight	Moderate: small stones, slope, droughty.
18D*:					
Pacolet	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Louisburg	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
19E—Poindexter	Severe: slope, small stones.	Severe: slope, small stones.	Severe: slope, small stones.	Severe: slope.	Severe: small stones, slope.
20A—Riverview	Severe: flooding.	Slight	Moderate: flooding.	Slight	Moderate: flooding.
21A—State	Severe: flooding.	Slight	Slight	Slight	Slight.
22B*:					
Tatum	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
Manteo	Severe: small stones, depth to rock.	Severe: small stones, depth to rock.	Severe: small stones, depth to rock.	Moderate: large stones.	Severe: thin layer, small stones.
22C*:					
Tatum	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
Manteo	Severe: small stones, depth to rock.	Severe: small stones, depth to rock.	Severe: slope, small stones, depth to rock.	Moderate: large stones.	Severe: thin layer, small stones.
22D*:					
Tatum	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily.	Severe: slope.
Manteo	Severe: slope, small stones, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope, small stones, depth to rock.	Moderate: large stones, slope.	Severe: thin layer, small stones, slope.
23B—Tatum	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.

See footnote at end of table.

Table 8.—Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
24B—Turbeville	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
24C—Turbeville	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: slope, erodes easily.	Moderate: slope.
25B*:					
Turbeville	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
Tatum	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
25C*:					
Turbeville	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: slope, erodes easily.	Moderate: slope.
Tatum	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
25D*:					
Turbeville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, erodes easily.	Severe: slope.
Tatum	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily.	Severe: slope.
26*:					
Udorthents.					
Urban land	Variable	Variable	Variable	Variable	Variable.
27B—Wedowee	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
28C*:					
Wedowee	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
Louisburg	Moderate: slope, small stones.	Moderate: slope.	Severe: slope, small stones.	Slight	Moderate: small stones, slope, droughty.
28D*:					
Wedowee	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Louisburg	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.

See footnote at end of table.

Table 8.—Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
29A Wehadkee	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
30A Wingina	Severe: flooding.	Slight	Moderate: small stones, flooding.	Slight	Moderate: flooding.
31A Yogaville	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 9.—Wildlife Habitat

(See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
1A Altavista	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
2B*: Appomattox	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Cullen	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
2C*: Appomattox	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Cullen	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
3A Batteau	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
4B Beckham	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
4C Beckham	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
4D Beckham	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
5B Cecil	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
6A Chewacla	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
7B Cullen	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
8B, 8C Iredell	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
9E Louisburg	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
10E*: Manteo	Very poor.	Poor	Poor	Very poor.	---	Very poor.	Very poor.	Poor	Very poor.	Very poor.
Rock outcrop	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
11E Manteo	Very poor.	Poor	Poor	Very poor.	---	Very poor.	Very poor.	Poor	Very poor.	Very poor.

See footnote at end of table.

Table 9.—Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
12B*:										
Mattaponi	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Cecil	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
12C*:										
Mattaponi	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Cecil	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
13B	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Mayodan										
13C	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Mayodan										
13D	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Mayodan										
14B	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Mecklenburg										
15B*:										
Mecklenburg	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Poindexter	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
15C*:										
Mecklenburg	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Poindexter	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
15D*:										
Mecklenburg	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Poindexter	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
16B	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Nason										
17B*:										
Nason	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Manteo	Very poor.	Poor	Poor	Very poor.	---	Very poor.	Very poor.	Poor	Very poor.	Very poor.

See footnote at end of table.

Table 9.—Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
17C*:										
Nason	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Manteo	Very poor.	Poor	Poor	Very poor.	---	Very poor.	Very poor.	Poor	Very poor.	Very poor.
17D*:										
Nason	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Manteo	Very poor.	Poor	Poor	Very poor.	---	Very poor.	Very poor.	Poor	Very poor.	Very poor.
18B*:										
Pacolet	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Louisburg	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
18C*:										
Pacolet	Poor	Fair	Poor	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Louisburg	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
18D*:										
Pacolet	Very poor.	Poor	Poor	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Louisburg	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
19E	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Poindexter										
20A	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Riverview										
21A	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
State										
22B*:										
Tatum	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Manteo	Very poor.	Poor	Poor	Very poor.	---	Very poor.	Very poor.	Poor	Very poor.	Very poor.
22C*:										
Tatum	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Manteo	Very poor.	Poor	Poor	Very poor.	---	Very poor.	Very poor.	Poor	Very poor.	Very poor.

See footnote at end of table.

Table 9.—Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
22D*:										
Tatum	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Manteo	Very poor.	Poor	Poor	Very poor.	---	Very poor.	Very poor.	Poor	Very poor.	Very poor.
23B---- Tatum	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
24B---- Turbeville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
24C---- Turbeville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
25B*:										
Turbeville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Tatum	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
25C*:										
Turbeville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Tatum	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
25D*:										
Turbeville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Tatum	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
26*. Udorthents-Urban land										
27B---- Wedowee	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
28C*:										
Wedowee	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Louisburg	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
28D*:										
Wedowee	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Louisburg	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.

See footnote at end of table.

Table 9.—Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
29A---------- Wehadkee	Very poor.	Poor	Poor	Fair	Fair	Good	Fair	Poor	Fair	Fair.
30A---------- Wingina	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
31A---------- Yogaville	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 10.—Building Site Development

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
1A Altavista	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Moderate: wetness, flooding.
2B*:						
Appomattox	Moderate: too clayey, wetness.	Moderate: shrink-swell.	Moderate: wetness, shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Moderate: small stones.
Cullen	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
2C*:						
Appomattox	Moderate: too clayey, wetness, slope.	Moderate: shrink-swell, slope.	Moderate: wetness, slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: small stones, slope.
Cullen	Moderate: too clayey, slope.	Moderate: slope, shrink-swell.	Moderate: shrink-swell, slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
3A Batteau	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.
4B Beckham	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, low strength.	Slight.
4C Beckham	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: slope, shrink-swell.	Severe: slope.	Moderate: shrink-swell, low strength, slope.	Moderate: slope.
4D Beckham	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
5B Cecil	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Moderate: low strength.	Slight.
6A Chewacla	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness, flooding.
7B Cullen	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
8B Iredell	Severe: wetness.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell, low strength.	Moderate: wetness.

See footnote at end of table.

Table 10.—Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
8C—Iredell	Severe: wetness.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell, slope.	Severe: shrink-swell, low strength.	Moderate: wetness, slope.
9E—Louisburg	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
10E*:						
Manteo	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: thin layer, small stones, slope.
Rock outcrop	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.
11E—Manteo	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: thin layer, small stones, slope.
12B*:						
Mattaponi	Moderate: too clayey, wetness.	Moderate: shrink-swell.	Moderate: wetness, shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
Cecil	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Moderate: low strength.	Slight.
12C*:						
Mattaponi	Moderate: too clayey, wetness, slope.	Moderate: shrink-swell, slope.	Moderate: wetness, slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: slope.
Cecil	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength, slope.	Moderate: slope.
13B—Mayodan	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Moderate: small stones.
13C—Mayodan	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: small stones, slope.
13D—Mayodan	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
14B—Mecklenburg	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.

See footnote at end of table.

Table 10.—Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
15B*:						
Mecklenburg	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
Poindexter	Moderate: depth to rock.	Slight	Moderate: depth to rock.	Moderate: slope.	Moderate: low strength.	Severe: small stones.
15C*:						
Mecklenburg	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: slope.
Poindexter	Moderate: depth to rock, slope.	Moderate: slope.	Moderate: depth to rock, slope.	Severe: slope.	Moderate: low strength, slope.	Severe: small stones.
15D*:						
Mecklenburg	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
Poindexter	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: small stones, slope.
16B—Nason	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Moderate: small stones, large stones.
17B*:						
Nason	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Moderate: small stones, large stones.
Manteo	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: thin layer, small stones.
17C*:						
Nason	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: small stones, large stones, slope.
Manteo	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: thin layer, small stones.
17D*:						
Nason	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
Manteo	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: thin layer, small stones, slope.

See footnote at end of table.

Table 10.—Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
18B*:						
Pacolet	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Moderate: low strength.	Slight.
Louisburg	Moderate: depth to rock.	Slight	Moderate: depth to rock.	Moderate: slope.	Slight	Moderate: small stones, droughty.
18C*:						
Pacolet	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength, slope.	Moderate: slope.
Louisburg	Moderate: depth to rock, slope.	Moderate: slope.	Moderate: depth to rock, slope.	Severe: slope.	Moderate: slope.	Moderate: small stones, slope, droughty.
18D*:						
Pacolet	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Louisburg	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
19E—Poindexter	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: small stones, slope.
20A—Riverview	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.
21A—State	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: low strength, flooding.	Slight.
22B*:						
Tatum	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
Manteo	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: thin layer, small stones.
22C*:						
Tatum	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: slope.
Manteo	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: thin layer, small stones.
22D*:						
Tatum	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.

See footnote at end of table.

Table 10.—Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
22D*:						
Manteo	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: thin layer, small stones, slope.
23B	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
24B	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
24C	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
25B*:						
Turbeville	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
Tatum	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
25C*:						
Turbeville	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
Tatum	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: slope.
25D*:						
Turbeville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, low strength.	Severe: slope.
Tatum	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
26*:						
Udorthents.						
Urban land	Variable	Variable	Variable	Variable	Variable	Variable.
27B	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Moderate: low strength.	Slight.
28C*:						
Wedowee	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength, slope.	Moderate: slope.

See footnote at end of table.

Table 10.—Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
28C*:						
Louisburg	Moderate: depth to rock, slope.	Moderate: slope.	Moderate: depth to rock, slope.	Severe: slope.	Moderate: slope.	Moderate: small stones, slope, droughty.
28D*:						
Wedowee	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Louisburg	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
29A						
Wehadkee	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness, flooding.
30A						
Wingina	Moderate: wetness, flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.
31A						
Yogaville	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 11.—General Corrective Measures for Limitations Affecting Dwellings With or Without Basements

(Consult the local building inspector's office for specific requirements)

Limiting factors	Corrective measures
Depth to rock (soft)	Excavate rock material using machinery
Depth to rock (hard)	Remove rock by blasting
Flooding	Soil is not recommended for the use
Shrinking and swelling	Maintain soil moisture; strengthen foundations of buildings
Slope	Design dwellings so that they are built parallel to the slope
Wetness	Provide surface and subsurface drainage systems to remove water from around foundations

Table 12.—General Corrective Measures for Limitations Affecting Lawns and Landscaping

(Consult the local Department of Transportation for specific recommendations)

Limiting factors	Corrective measures
Thin layer	Select shallow-rooted species for planting; prepare a raised seedbed
Flooding	Soil is not recommended for the use
Large stones	Excavate and remove stones
Small stones	Screen topsoil and remove stones
Droughty	Maintain adequate amount of moisture for selected plant species
Slope	Design landscaping so that runoff is minimized and maintenance problems are reduced
Wetness	Provide surface and subsurface drainage systems to remove excess water

Table 13.—Sanitary Facilities

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
1A Altavista	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: wetness, too clayey.
2B*: Appomattox	Severe: percs slowly.	Severe: seepage.	Severe: seepage, wetness.	Severe: seepage.	Poor: too clayey, hard to pack, small stones.
Cullen	Moderate: percs slowly.	Moderate: slope, seepage.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.
2C*: Appomattox	Severe: percs slowly.	Severe: seepage, slope.	Severe: seepage, wetness.	Severe: seepage.	Poor: too clayey, hard to pack, small stones.
Cullen	Moderate: percs slowly, slope.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
3A Batteau	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
4B Beckham	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
4C Beckham	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, slope.
4D Beckham	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
5B Cecil	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey, hard to pack.
6A Chewacla	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: hard to pack, wetness.
7B Cullen	Moderate: percs slowly.	Moderate: slope, seepage.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.

See footnote at end of table.

Table 13.—Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
8B Iredell	Severe: wetness, percs slowly.	Moderate: depth to rock, slope.	Severe: depth to rock, wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
8C Iredell	Severe: wetness, percs slowly.	Severe: slope.	Severe: depth to rock, wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
9E Louisburg	Severe: slope.	Severe: seepage, slope.	Severe: depth to rock, seepage, slope.	Severe: seepage, slope.	Poor: slope, thin layer, small stones.
10E*: Manteo	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: slope, seepage, depth to rock.	Poor: depth to rock, small stones, slope.
Rock outcrop	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Severe: depth to rock.	Poor: depth to rock, slope.
11E Manteo	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: slope, seepage, depth to rock.	Poor: depth to rock, small stones, slope.
12B*: Mattaponi	Severe: wetness, percs slowly.	Severe: wetness.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.
Cecil	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey, hard to pack.
12C*: Mattaponi	Severe: wetness, percs slowly.	Severe: slope, wetness.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
Cecil	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, hard to pack, slope.
13B Mayodan	Moderate: percs slowly.	Moderate: seepage, slope.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.
13C Mayodan	Moderate: percs slowly, slope.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.

See footnote at end of table.

Table 13.—Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
13D---------- Mayodan	Severe: slope.	Severe: slope.	Severe: slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
14B---------- Mecklenburg	Severe: percs slowly.	Moderate: seepage, slope.	Severe: too clayey.	Slight----------	Poor: too clayey, hard to pack.
15B*:					
Mecklenburg--------	Severe: percs slowly.	Moderate: seepage, slope.	Severe: too clayey.	Slight----------	Poor: too clayey, hard to pack.
Poindexter---------	Severe: depth to rock.	Severe: seepage, depth to rock.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: depth to rock.
15C*:					
Mecklenburg--------	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
Poindexter---------	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: depth to rock.
15D*:					
Mecklenburg--------	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
Poindexter---------	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: depth to rock, slope.
16B---------- Nason	Moderate: depth to rock, percs slowly.	Moderate: seepage, depth to rock, slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock.	Poor: too clayey, hard to pack.
17B*:					
Nason----------	Moderate: depth to rock, percs slowly.	Moderate: seepage, depth to rock, slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock.	Poor: too clayey, hard to pack.
Manteo----------	Severe: depth to rock.	Severe: seepage, depth to rock.	Severe: depth to rock, seepage.	Severe: seepage, depth to rock.	Poor: depth to rock, small stones.
17C*:					
Nason----------	Moderate: depth to rock, percs slowly, slope.	Severe: slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock, slope.	Poor: too clayey, hard to pack.

See footnote at end of table.

Table 13.—Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
17C*:					
Manteo	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: seepage, depth to rock.	Poor: depth to rock, small stones.
17D*:					
Nason	Severe: slope.	Severe: slope.	Severe: depth to rock, slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
Manteo	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: slope, seepage, depth to rock.	Poor: depth to rock, small stones, slope.
18B*:					
Pacolet	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Fair: too clayey.
Louisburg	Moderate: depth to rock.	Severe: seepage.	Severe: depth to rock, seepage.	Severe: seepage.	Poor: thin layer, small stones.
18C*:					
Pacolet	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope.	Moderate: slope.	Fair: too clayey, slope.
Louisburg	Moderate: depth to rock, slope.	Severe: seepage, slope.	Severe: depth to rock, seepage.	Severe: seepage.	Poor: thin layer, small stones.
18D*:					
Pacolet	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
Louisburg	Severe: slope.	Severe: seepage, slope.	Severe: depth to rock, seepage, slope.	Severe: seepage, slope.	Poor: slope, thin layer, small stones.
19E	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: depth to rock, slope.
Poindexter					
20A	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Fair: thin layer.
Riverview					
21A	Moderate: flooding, wetness, percs slowly.	Severe: seepage.	Severe: seepage, wetness.	Moderate: flooding, wetness.	Fair: too clayey, thin layer.
State					

See footnote at end of table.

Table 13.—Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
22B*:					
Tatum	Moderate: depth to rock, percs slowly.	Moderate: seepage, depth to rock, slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock.	Poor: too clayey, hard to pack.
Manteo	Severe: depth to rock.	Severe: seepage, depth to rock.	Severe: depth to rock, seepage.	Severe: seepage, depth to rock.	Poor: depth to rock, small stones.
22C*:					
Tatum	Moderate: depth to rock, percs slowly, slope.	Severe: slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock, slope.	Poor: too clayey, hard to pack.
Manteo	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: seepage, depth to rock.	Poor: depth to rock, small stones.
22D*:					
Tatum	Severe: slope.	Severe: slope.	Severe: depth to rock, slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
Manteo	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: slope, seepage, depth to rock.	Poor: depth to rock, small stones, slope.
23B	Moderate: depth to rock, percs slowly.	Moderate: seepage, depth to rock, slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock.	Poor: too clayey, hard to pack.
Tatum					
24B	Moderate: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.
Turbeville					
24C	Moderate: slope, percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
Turbeville					
25B*:					
Turbeville	Moderate: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.
Tatum	Moderate: depth to rock, percs slowly.	Moderate: seepage, depth to rock, slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock.	Poor: too clayey, hard to pack.
25C*:					
Turbeville	Moderate: slope, percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.

See footnote at end of table.

Table 13.—Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
25C*:					
Tatum	Moderate: depth to rock, percs slowly, slope.	Severe: slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock, slope.	Poor: too clayey, hard to pack.
25D*:					
Turbeville	Severe: slope.	Severe: slope.	Severe: slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
Tatum	Severe: slope.	Severe: slope.	Severe: depth to rock, slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
26*:					
Udorthents.					
Urban land	Variable	Variable	Variable	Variable	Variable.
27B	Moderate:	Moderate:	Slight	Slight	Fair:
Wedowee	percs slowly.	seepage, slope.			small stones.
28C*:					
Wedowee	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope.	Moderate: slope.	Fair: small stones, slope.
Louisburg	Moderate: depth to rock, slope.	Severe: seepage, slope.	Severe: depth to rock, seepage.	Severe: seepage.	Poor: thin layer, small stones.
28D*:					
Wedowee	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
Louisburg	Severe: slope.	Severe: seepage, slope.	Severe: depth to rock, seepage, slope.	Severe: seepage, slope.	Poor: slope, thin layer, small stones.
29A	Severe:	Severe:	Severe:	Severe:	Poor:
Wehadkee	flooding, wetness.	flooding, wetness.	flooding, wetness.	flooding, wetness.	wetness, thin layer.
30A	Severe:	Severe:	Severe:	Severe:	Fair:
Wingina	flooding.	flooding.	flooding, wetness.	flooding.	too clayey.
31A	Severe:	Severe:	Severe:	Severe:	Poor:
Yogaville	flooding, wetness.	flooding, wetness.	flooding, wetness.	flooding, wetness.	wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 14.—General Corrective Measures for Limitations Affecting Septic Tank Absorption Fields

(Consult the local Health Department for specific requirements)

Limiting factors	Corrective measures
Depth to rock	Specially design the absorption field
Flooding	Soil is not recommended for the use
Percs slowly	Enlarge the absorption field
Slope	Install absorption fields on the contour
Wetness	Provide surface and subsurface drainage systems; specially design the absorption field

Table 15.—Construction Materials

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
1A Altavista	Fair: wetness, low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
2B*, 2C*: Appomattox	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, area reclaim.
Cullen	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
3A Batteau	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, small stones.
4B, 4C Beckham	Fair: shrink-swell, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
4D Beckham	Fair: shrink-swell, low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
5B Cecil	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
6A Chewacla	Poor: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
7B Cullen	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
8B, 8C Iredell	Poor: shrink-swell, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones.
9E Louisburg	Poor: thin layer, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
10E*: Manteo	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, area reclaim, small stones.
Rock outcrop	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, slope.

See footnote at end of table.

Table 15.—Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
11E---------- Manteo	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, area reclaim, small stones.
12B*, 12C*:				
Mattaponi----------	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Cecil----------	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
13B, 13C---------- Mayodan	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones.
13D---------- Mayodan	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, slope.
14B---------- Mecklenburg	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
15B*, 15C*:				
Mecklenburg----------	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Poindexter----------	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
15D*:				
Mecklenburg----------	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, too clayey.
Poindexter----------	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
16B---------- Nason	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, area reclaim.
17B*, 17C*:				
Nason----------	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, area reclaim.
Manteo----------	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
17D*:				
Nason----------	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, area reclaim.

See footnote at end of table.

Table 15.—Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
17D*:				
Manteo	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, area reclaim, small stones.
18B*, 18C*:				
Pacolet	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Louisburg	Poor: thin layer.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
18D*:				
Pacolet	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
Louisburg	Poor: thin layer.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
19E	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
20A	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, thin layer.
21A	Good	Probable	Improbable: too sandy.	Fair: too clayey.
22B*, 22C*:				
Tatum	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, area reclaim.
Manteo	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
22D*:				
Tatum	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, area reclaim.
Manteo	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, area reclaim, small stones.
23B	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, area reclaim.

See footnote at end of table.

Table 15.—Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
24B, 24C---------- Turbeville	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
25B*, 25C*: Turbeville----------	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Tatum----------	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, area reclaim.
25D*: Turbeville----------	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
Tatum----------	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, area reclaim.
26*: Udorthents.				
Urban land----------	Variable----------	Variable----------	Variable----------	Variable.
27B---------- Wedowee	Good----------	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
28C*: Wedowee----------	Good----------	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Louisburg----------	Poor: thin layer.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
28D*: Wedowee----------	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
Louisburg----------	Poor: thin layer.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
29A---------- Wehadkee	Poor: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
30A---------- Wingina	Good----------	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, small stones.
31A---------- Yogaville	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 16.—Water Management

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "moderate" and "severe." Absence of an entry indicates that the soil was not evaluated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
1A Altavista	Moderate: seepage.	Severe: piping, wetness.	Flooding	Wetness	Wetness, soil blowing.	Favorable.
2B*:						
Appomattox	Severe: seepage.	Severe: hard to pack.	Deep to water	Slope	Large stones	Large stones.
Cullen	Moderate: seepage, slope.	Severe: hard to pack.	Deep to water	Slope	Favorable	Favorable.
2C*:						
Appomattox	Severe: seepage, slope.	Severe: hard to pack.	Deep to water	Slope	Slope, large stones.	Large stones, slope.
Cullen	Severe: slope.	Severe: hard to pack.	Deep to water	Slope	Slope	Slope.
3A Batteau	Moderate: seepage.	Severe: piping, wetness.	Flooding	Wetness	Wetness	Wetness.
4B Beckham	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Slope	Favorable	Favorable.
4C, 4D Beckham	Severe: slope.	Moderate: piping.	Deep to water	Slope	Slope	Slope.
5B Cecil	Moderate: seepage, slope.	Severe: piping, hard to pack.	Deep to water	Slope, soil blowing.	Soil blowing	Favorable.
6A Chewacla	Moderate: seepage.	Severe: piping, hard to pack, wetness.	Flooding	Wetness, flooding.	Wetness	Wetness.
7B Cullen	Moderate: seepage, slope.	Severe: hard to pack.	Deep to water	Slope	Favorable	Favorable.
8B Iredell	Moderate: depth to rock, slope.	Severe: hard to pack.	Percs slowly, slope.	Slope, wetness.	Wetness	Wetness, percs slowly.
8C Iredell	Severe: slope.	Severe: hard to pack.	Percs slowly, slope.	Slope, wetness.	Slope, wetness.	Wetness, slope, percs slowly.

See footnote at end of table.

Table 16.—Water Management--Continued

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
9E---------- Louisburg	Severe: seepage, slope.	Severe: thin layer.	Deep to water	Slope, droughty.	Slope, soil blowing.	Slope, droughty.
10E*:						
Manteo----------	Severe: depth to rock, slope.	Severe: piping, large stones.	Deep to water	Large stones, droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Rock outcrop-----	Severe: depth to rock, slope.	Slight---------	Deep to water	Slope, depth to rock.	Slope, depth to rock.	Slope, depth to rock.
11E---------- Manteo	Severe: depth to rock, slope.	Severe: piping, large stones.	Deep to water	Large stones, droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
12B*:						
Mattaponi--------	Moderate: slope.	Moderate: thin layer, hard to pack.	Deep to water	Slope----------	Favorable------	Favorable.
Cecil----------	Moderate: seepage, slope.	Severe: piping, hard to pack.	Deep to water	Slope, soil blowing.	Soil blowing---	Favorable.
12C*:						
Mattaponi--------	Severe: slope.	Moderate: thin layer, hard to pack.	Deep to water	Slope----------	Slope----------	Slope.
Cecil----------	Severe: slope.	Severe: piping, hard to pack.	Deep to water	Slope, soil blowing.	Slope, soil blowing.	Slope.
13B---------- Mayodan	Moderate: seepage, slope.	Severe: hard to pack.	Deep to water	Slope----------	Favorable------	Favorable.
13C, 13D---------- Mayodan	Severe: slope.	Severe: hard to pack.	Deep to water	Slope----------	Slope----------	Slope.
14B---------- Mecklenburg	Moderate: slope, seepage.	Severe: hard to pack.	Deep to water	Percs slowly, slope.	Percs slowly---	Percs slowly.
15B*:						
Mecklenburg------	Moderate: slope, seepage.	Severe: hard to pack.	Deep to water	Percs slowly, slope.	Percs slowly---	Percs slowly.
Poindexter-------	Severe: seepage.	Severe: thin layer.	Deep to water	Slope, depth to rock.	Depth to rock	Depth to rock.
15C*, 15D*:						
Mecklenburg------	Severe: slope.	Severe: hard to pack.	Deep to water	Percs slowly, slope.	Slope, percs slowly.	Slope, percs slowly.

See footnote at end of table.

Table 16.—Water Management--Continued

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
15C*, 15D*:						
Poindexter	Severe: seepage, slope.	Severe: thin layer.	Deep to water	Slope, depth to rock.	Slope, depth to rock.	Slope, depth to rock.
16B	Moderate: seepage, depth to rock, slope.	Severe: thin layer.	Deep to water	Slope, soil blowing.	Soil blowing	Favorable.
Nason						
17B*:						
Nason	Moderate: seepage, depth to rock, slope.	Severe: thin layer.	Deep to water	Slope, soil blowing.	Soil blowing	Favorable.
Manteo	Severe: depth to rock.	Severe: piping, large stones.	Deep to water	Large stones, droughty, depth to rock.	Large stones, depth to rock.	Large stones, droughty.
17C*, 17D*:						
Nason	Severe: slope.	Severe: thin layer.	Deep to water	Slope, soil blowing.	Slope, soil blowing.	Slope.
Manteo	Severe: depth to rock, slope.	Severe: piping, large stones.	Deep to water	Large stones, droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
18B*:						
Pacolet	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope	Soil blowing	Favorable.
Louisburg	Severe: seepage.	Severe: thin layer.	Deep to water	Slope, droughty.	Soil blowing	Droughty.
18C*, 18D*:						
Pacolet	Severe: slope.	Severe: piping.	Deep to water	Slope	Slope, soil blowing.	Slope.
Louisburg	Severe: seepage, slope.	Severe: thin layer.	Deep to water	Slope, droughty.	Slope, soil blowing.	Slope, droughty.
19E	Severe: seepage, slope.	Severe: thin layer.	Deep to water	Slope, depth to rock.	Slope, depth to rock.	Slope, depth to rock.
Poindexter						
20A	Severe: seepage.	Severe: piping.	Deep to water	Flooding	Favorable	Favorable.
Riverview						
21A	Severe: seepage.	Moderate: thin layer, piping.	Deep to water	Soil blowing	Soil blowing	Favorable.
State						
22B*:						
Tatum	Moderate: seepage, depth to rock, slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.

See footnote at end of table.

Table 16.—Water Management--Continued

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
22B*:						
Manteo	Severe: depth to rock.	Severe: piping, large stones.	Deep to water	Large stones, droughty, depth to rock.	Large stones, depth to rock.	Large stones, droughty.
22C*, 22D*:						
Tatum	Severe: slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
Manteo	Severe: depth to rock, slope.	Severe: piping, large stones.	Deep to water	Large stones, droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
23B Tatum	Moderate: seepage, depth to rock, slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.
24B Turbeville	Moderate: seepage, slope.	Moderate: hard to pack.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.
24C Turbeville	Severe: slope.	Moderate: hard to pack.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
25B*:						
Turbeville	Moderate: seepage, slope.	Moderate: hard to pack.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.
Tatum	Moderate: seepage, depth to rock, slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.
25C*, 25D*:						
Turbeville	Severe: slope.	Moderate: hard to pack.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
Tatum	Severe: slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
26*:						
Udorthents.						
Urban land	Variable	Variable	Variable	Variable	Variable	Variable.
27B Wedowee	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope	Favorable	Favorable.
28C*, 28D*:						
Wedowee	Severe: slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
Louisburg	Severe: seepage, slope.	Severe: thin layer.	Deep to water	Slope, droughty.	Slope, soil blowing.	Slope, droughty.

See footnote at end of table.

Table 16.—Water Management--Continued

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
29A---------- Wehadkee	Moderate: seepage.	Severe: piping, wetness.	Flooding-------	Wetness, soil blowing, flooding.	Wetness, soil blowing.	Wetness.
30A---------- Wingina	Moderate: seepage.	Severe: piping.	Deep to water	Flooding-------	Favorable------	Favorable.
31A---------- Yogaville	Moderate: seepage.	Severe: piping, wetness.	Flooding-------	Wetness, flooding.	Wetness--------	Wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 17.—Engineering Index Properties

(The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated)

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	3-10 inches	4	10	40	200		
	In				Pct					Pct	
1A	0-6	Loam	ML, CL-ML, SM, SC-SM	A-4	0	95-100	90-100	65-99	35-60	<23	NP-7
Altavista	6-40	Clay loam, sandy clay loam, loam.	CL, CL-ML, SC, SC-SM	A-4, A-6, A-7	0	95-100	95-100	60-99	45-75	20-45	5-28
	40-65	Variable	---	---	---	---	---	---	---	---	---
2B*, 2C*:											
Appomattox	0-6	Gravelly sandy loam.	SM, SC, GM, GC	A-2, A-4	5-10	70-95	55-75	35-65	15-40	<20	NP-10
	6-36	Clay loam, gravelly sandy clay, clay.	MH, CH, CL, SC	A-7, A-2	0-15	70-100	50-100	45-95	20-90	42-60	15-60
	36-65	Clay loam, clay, very cobbly clay.	SC, CL, ML, GC	A-2, A-4, A-6, A-7	0-30	65-100	35-100	30-95	15-90	25-50	8-28
Cullen	0-9	Clay loam	CL	A-7, A-6	0	90-100	75-100	75-100	60-80	35-50	11-25
	9-52	Clay, clay loam	MH, ML	A-7	0	90-100	75-100	75-100	65-95	45-80	15-35
	52-65	Clay, clay loam, silty clay loam.	CL, CH	A-7, A-6	0	90-100	75-100	75-100	65-95	35-60	15-30
3A	0-13	Loam	ML, CL-ML, CL	A-4, A-6	0	95-100	75-100	65-100	45-90	17-35	5-17
Batteau	13-72	Sandy loam, silt loam, loam.	ML, CL-ML, CL	A-4, A-6, A-7	0	95-100	75-100	65-100	45-95	20-42	5-20
4B, 4C, 4D	0-7	Clay loam	CL	A-4, A-6	0	100	80-100	75-100	70-95	30-45	8-20
Beckham	7-27	Clay, clay loam	CL, CH	A-6, A-7	0	100	80-100	75-100	60-95	35-60	10-35
	27-72	Clay, clay loam	CL	A-6, A-7	0	100	80-100	75-100	60-95	35-55	10-35
5B	0-9	Sandy loam	SM, SC-SM	A-2, A-4	0-5	84-100	80-100	67-90	26-42	<30	NP-7
Cecil	9-16	Sandy clay loam, clay loam.	SM, SC, ML, CL	A-4, A-6	0-5	75-100	75-100	68-95	38-81	21-35	3-17
	16-65	Clay, clay loam	MH, ML, CH	A-7, A-5	0-5	97-100	92-100	72-100	55-95	41-80	9-37
6A	0-3	Loam	ML, CL, CL-ML	A-4, A-6, A-7	0	98-100	95-100	70-100	55-90	25-49	4-20
Chewacla	3-45	Sandy clay loam, loam, sandy loam.	SM, SC-SM, ML, CL	A-4, A-7-6, A-6	0	96-100	95-100	60-100	36-70	20-45	2-15
	45-65	Variable	---	---	---	---	---	---	---	---	---
7B	0-9	Clay loam	CL	A-7, A-6	0	90-100	75-100	75-100	60-80	35-50	11-25
Cullen	9-52	Clay, clay loam	MH, ML	A-7	0	90-100	75-100	75-100	65-95	45-80	15-35
	52-65	Clay, clay loam, silty clay loam.	CL, CH	A-7, A-6	0	90-100	75-100	75-100	65-95	35-60	15-30
8B, 8C	0-5	Loam	ML, CL-ML, CL	A-4, A-6	0-1	99-100	95-100	80-95	51-70	25-38	5-12
Iredell	5-23	Clay	CH	A-7	0	99-100	60-100	60-100	55-95	54-115	29-85
	23-43	Loam, silt loam, sandy loam.	CL, CL-ML	A-4, A-6	0-1	98-100	85-100	70-95	40-75	30-50	10-30
	43-63	Weathered bedrock	---	---	---	---	---	---	---	---	---

See footnote at end of table.

Table 17.—Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	3-10 inches	4	10	40	200		
	In				Pct					Pct	
9E---------- Louisburg	0-13	Gravelly coarse sandy loam.	SM, SC-SM	A-2, A-1-b	0-15	70-100	50-75	35-60	20-35	<25	NP-6
	13-28	Sandy loam, gravelly sandy loam, gravelly sandy clay loam.	SM, SC-SM	A-2, A-4	0-15	70-100	60-90	40-70	20-40	<30	NP-7
	28-72	Weathered bedrock	---	---	---	---	---	---	---	---	---
10E*:											
Manteo----------	0-7	Very channery loam.	GM, ML, CL, GC	A-1, A-2, A-4, A-6	25-40	55-90	40-65	35-65	25-60	18-32	2-15
	7-14	Very channery clay loam, channery silt loam, channery clay loam.	GM, GC, ML, CL	A-1, A-2, A-4, A-6	15-40	40-90	20-60	20-60	15-55	18-38	2-20
	14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
11E---------- Manteo	0-7	Very channery loam.	GM, ML, CL, GC	A-1, A-2, A-4, A-6	25-40	55-90	40-65	35-65	25-60	18-32	2-15
	7-14	Very channery clay loam, channery silt loam, channery clay loam.	GM, GC, ML, CL	A-1, A-2, A-4, A-6	15-40	40-90	20-60	20-60	15-55	18-38	2-20
	14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
12B*, 12C*:											
Mattaponi-------	0-9	Sandy loam-------	SM, SC, SC-SM	A-2, A-4	0	90-100	85-100	50-100	20-50	<25	NP-10
	9-65	Clay loam, sandy clay, clay.	CL, CH, SC	A-6, A-7	0	80-100	75-100	65-100	45-95	35-70	15-40
Cecil----------	0-9	Sandy loam-------	SM, SC-SM	A-2, A-4	0-5	84-100	80-100	67-90	26-42	<30	NP-7
	9-16	Sandy clay loam, clay loam.	SM, SC, ML, CL	A-4, A-6	0-5	75-100	75-100	68-95	38-81	21-35	3-17
	16-65	Clay, clay loam	MH, ML, CH	A-7, A-5	0-5	97-100	92-100	72-100	55-95	41-80	9-37
13B, 13C, 13D---- Mayodan	0-7	Gravelly sandy loam.	SM, GM, GP-GM, SP-SM	A-1, A-2-4	5-15	60-95	55-80	40-75	12-30	<36	NP-4
	7-45	Clay, sandy clay, silty clay.	MH, CH, CL, ML	A-7	0-2	95-100	90-100	80-100	50-98	41-80	15-45
	45-61	Variable---------	---	---	---	---	---	---	---	---	---
14B---------- Mecklenburg	0-4	Loam------------	ML, SM, CL-ML, CL	A-4, A-6	0-5	90-100	80-100	65-90	36-65	20-40	NP-15
	4-39	Clay------------	CH, MH	A-7	0-5	90-100	85-100	80-100	75-95	51-75	20-43
	39-65	Loam, sandy clay loam, clay loam.	CL	A-4, A-6, A-7	0-5	90-100	85-100	80-100	50-80	25-49	8-25

See footnote at end of table.

Table 17.—Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments 3-10 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
15B*, 15C*, 15D*:											
Mecklenburg	0-4	Loam	ML, SM, CL-ML, CL	A-4, A-6	0-5	90-100	80-100	65-90	36-65	20-40	NP-15
	4-39	Clay	CH, MH	A-7	0-5	90-100	85-100	80-100	75-95	51-75	20-43
	39-65	Loam, sandy clay loam, clay loam.	CL	A-4, A-6, A-7	0-5	90-100	85-100	80-100	50-80	25-49	8-25
Poindexter	0-7	Gravelly silt loam.	ML, CL-ML	A-4	0	90-100	40-75	45-70	40-65	<25	NP-7
	7-30	Clay loam, silt loam, gravelly loam.	SC, CL	A-6	0	90-100	50-100	45-100	35-85	30-40	11-20
	30-51	Weathered bedrock	---	---	---	---	---	---	---	---	---
16B	0-12	Gravelly loam	SM, GM, ML	A-1, A-2, A-4	0-10	65-85	55-75	40-75	20-70	<38	NP-10
Nason											
	12-45	Silty clay loam, silty clay, clay.	CL, CH	A-7	0-5	80-100	75-100	70-95	65-90	40-60	15-30
	45-63	Weathered bedrock	---	---	---	---	---	---	---	---	---
17B*, 17C*, 17D*:											
Nason	0-12	Gravelly loam	SM, GM, ML	A-1, A-2, A-4	0-10	65-85	55-75	40-75	20-70	<38	NP-10
	12-45	Silty clay loam, silty clay, clay.	CL, CH	A-7	0-5	80-100	75-100	70-95	65-90	40-60	15-30
	45-63	Weathered bedrock	---	---	---	---	---	---	---	---	---
Manteo	0-7	Very channery loam.	GM, ML, CL, GC	A-1, A-2, A-4, A-6	25-40	55-90	40-65	35-65	25-60	18-32	2-15
	7-14	Very channery clay loam, channery silt loam, channery clay loam.	GM, GC, ML, CL	A-1, A-2, A-4, A-6	15-40	40-90	20-60	20-60	15-55	18-38	2-20
	14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
18B*, 18C*, 18D*:											
Pacolet	0-7	Sandy loam	SM, SC-SM	A-2, A-1-b, A-4	0-2	85-100	80-100	42-90	16-42	<28	NP-7
	7-29	Sandy clay, clay loam, clay.	ML, MH, CL	A-6, A-7	0-1	80-100	80-100	60-100	51-75	38-65	11-33
	29-64	Clay loam, loam, sandy loam.	CL, CL-ML, SC-SM, SC	A-2, A-4, A-6	0-2	80-100	70-100	60-80	30-60	20-35	5-15
Louisburg	0-13	Gravelly coarse sandy loam.	SM, SC-SM	A-2, A-1-b	0-15	70-100	50-75	35-60	20-35	<25	NP-6
	13-28	Sandy loam, gravelly sandy loam, gravelly sandy clay loam.	SM, SC-SM	A-2, A-4	0-15	70-100	60-90	40-70	20-40	<30	NP-7
	28-72	Weathered bedrock	---	---	---	---	---	---	---	---	---

See footnote at end of table.

Table 17.—Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	3-10 inches	4	10	40	200		
	In				Pct					Pct	
19E---------- Poindexter	0-7	Gravelly silt loam.	ML, CL-ML	A-4	0	90-100	40-75	45-70	40-65	<25	NP-7
	7-30	Clay loam, silt loam, gravelly loam.	SC, CL	A-6	0	90-100	50-100	45-100	35-85	30-40	11-20
	30-51	Weathered bedrock	---	---	---	---	---	---	---	---	---
20A---------- Riverview	0-6	Loam----------	CL, CL-ML, ML	A-4, A-6	0	100	100	90-100	60-80	15-30	3-14
	6-38	Sandy clay loam, silty clay loam, loam.	CL, ML, CL-ML	A-4, A-6	0	100	100	90-100	60-95	20-40	3-20
	38-65	Loamy fine sand, sandy loam, sand.	SM, SC-SM	A-2, A-4	0	100	100	50-95	15-45	<20	NP-7
21A---------- State	0-6	Loam----------	SM, SC, ML, CL	A-4, A-6	0	95-100	95-100	65-95	45-85	<28	NP-15
	6-65	Loam, clay loam, sandy clay loam, clay.	CL, SC	A-4, A-6	0	95-100	95-100	75-100	35-80	24-40	8-22
22B*, 22C*, 22D*:											
Tatum----------	0-10	Silt loam--------	ML, CL, CL-ML	A-4, A-6	0-5	85-100	80-100	65-100	60-90	20-34	5-15
	10-41	Silty clay loam, silty clay, clay.	MH, CH	A-7	0-5	75-100	75-95	60-95	55-95	50-80	20-45
	41-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
Manteo----------	0-7	Very channery loam.	GM, ML, CL, GC	A-1, A-2, A-4, A-6	25-40	55-90	40-65	35-65	25-60	18-32	2-15
	7-14	Very channery clay loam, channery silt loam, channery clay loam.	GM, GC, ML, CL	A-1, A-2, A-4, A-6	15-40	40-90	20-60	20-60	15-55	18-38	2-20
	14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
23B---------- Tatum	0-10	Silt loam--------	ML, CL, CL-ML	A-4, A-6	0-5	85-100	80-100	65-100	60-90	20-34	5-15
	10-41	Silty clay loam, silty clay, clay.	MH, CH	A-7	0-5	75-100	75-95	60-95	55-95	50-80	20-45
	41-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
24B, 24C---------- Turbeville	0-4	Loam----------	ML, CL-ML	A-4	0-2	80-100	75-100	65-100	45-90	<28	NP-7
	4-65	Clay loam, clay, gravelly clay.	CL, CH	A-7	0-5	80-100	50-100	50-100	45-95	45-65	20-35
25B*:											
Turbeville------	0-4	Loam----------	ML, CL-ML	A-4	0-2	80-100	75-100	65-100	45-90	<28	NP-7
	4-65	Clay loam, clay, gravelly clay.	CL, CH	A-7	0-5	80-100	50-100	50-100	45-95	45-65	20-35

See footnote at end of table.

Table 17.—Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments 3-10 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
25B*:											
Tatum	0-10	Silt loam	ML, CL, CL-ML	A-4, A-6	0-5	85-100	80-100	65-100	60-90	20-34	5-15
	10-41	Silty clay loam, silty clay, clay.	MH, CH	A-7	0-5	75-100	75-95	60-95	55-95	50-80	20-45
	41-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
25C*, 25D*:											
Turbeville	0-4	Loam	ML, CL-ML	A-4	0-2	80-100	75-100	65-100	45-90	<28	NP-7
	4-65	Clay loam, clay, gravelly clay.	CL, CH	A-7	0-5	80-100	50-100	50-100	45-95	45-65	20-35
Tatum	0-5	Silt loam	ML, CL, CL-ML	A-4, A-6	0-5	85-100	80-100	65-100	60-90	20-34	5-15
	5-41	Silty clay loam, silty clay, clay.	MH, CH	A-7	0-5	75-100	75-95	60-95	55-95	50-80	20-45
	41-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
26*:											
Udorthents.											
Urban land	0-6	Variable	---	---	---	---	---	---	---	---	---
27B	0-7	Sandy loam	SM, SC-SM	A-4, A-2-4	0	95-100	80-100	50-99	23-50	<30	NP-6
Wedowee	7-25	Sandy clay, clay loam, clay.	SC, ML, CL, MH	A-6, A-7	0	95-100	95-100	65-97	45-75	28-58	5-30
	25-65	Sandy clay loam, clay loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	0	80-100	70-100	60-80	30-60	20-54	5-25
28C*, 28D*:											
Wedowee	0-7	Sandy loam	SM, SC-SM	A-4, A-2-4	0	95-100	80-100	50-99	23-50	<30	NP-6
	7-25	Sandy clay, clay loam, clay.	SC, ML, CL, MH	A-6, A-7	0	95-100	95-100	65-97	45-75	28-58	5-30
	25-65	Sandy clay loam, clay loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	0	80-100	70-100	60-80	30-60	20-54	5-25
Louisburg	0-13	Gravelly coarse sandy loam.	SM, SC-SM	A-2, A-1-b	0-15	70-100	50-75	35-60	20-35	<25	NP-6
	13-28	Sandy loam, gravelly sandy loam, gravelly sandy clay loam.	SM, SC-SM	A-2, A-4	0-15	70-100	60-90	40-70	20-40	<30	NP-7
	28-72	Weathered bedrock	---	---	---	---	---	---	---	---	---
29A	0-6	Loam	SM, SC, SC-SM	A-2, A-4	0	100	95-100	60-90	30-50	<30	NP-10
Wehadkee	6-74	Loam, silty clay loam, very fine sandy loam.	CL, CL-ML, ML, SC	A-6, A-7, A-4	0	100	99-100	85-100	45-98	20-58	6-25

See footnote at end of table.

Table 17.—Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments 3-10 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
30A---------- Wingina	0-14	Loam----------	CL, ML, CL-ML	A-4, A-6	0	85-100	75-100	65-100	45-90	15-30	5-15
	14-72	Sandy loam, loam, clay loam.	CL, ML	A-2, A-4, A-6	0	85-100	75-100	45-95	25-90	20-35	NP-20
31A---------- Yogaville	0-14	Loam----------	CL, ML, CL-ML	A-4, A-6	0	85-100	75-100	65-100	45-90	15-30	5-15
	14-72	Silt loam, loam, clay loam.	CL, ML	A-2, A-4, A-6	0	85-100	75-100	45-95	25-90	15-35	NP-20

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 18.—Physical and Chemical Properties of the Soils

(The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated)

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
								K	T	
	In	Pct	g/cc	In/hr	In/in	pH				Pct
1A	0-6	10-24	1.30-1.50	2.0-6.0	0.12-0.20	3.6-6.5	Low	0.24	5	.5-3
Altavista	6-40	18-35	1.30-1.50	0.6-2.0	0.12-0.20	3.6-6.0	Low	0.24		
	40-65	---	---	---	---	---				
2B*, 2C*:										
Appomattox	0-6	10-20	1.20-1.50	0.6-6.0	0.14-0.19	4.5-6.0	Low	0.10	5	1-2
	6-36	35-80	1.20-1.50	0.2-0.6	0.12-0.17	4.5-6.0	Moderate	0.24		
	36-65	27-45	1.20-1.50	0.6-6.0	0.06-0.12	4.5-6.0	Low	0.24		
Cullen	0-9	27-40	1.20-1.50	0.6-2.0	0.12-0.17	5.1-6.0	Moderate	0.24	3	.5-2
	9-52	35-70	1.30-1.60	0.6-2.0	0.10-0.14	5.1-6.0	Moderate	0.24		
	52-65	30-50	1.30-1.60	0.6-2.0	0.13-0.17	5.1-6.0	Moderate	0.24		
3A	0-13	7-27	1.20-1.50	0.6-2.0	0.14-0.22	5.6-7.8	Low	0.32	5	1-4
Batteau	13-72	7-35	1.20-1.50	0.6-2.0	0.10-0.19	5.6-7.8	Low	0.28		
4B, 4C, 4D	0-7	27-40	1.35-1.50	0.6-2.0	0.10-0.13	4.5-6.5	Low	0.20	5	1-3
Beckham	7-27	35-60	1.35-1.50	0.6-2.0	0.10-0.13	4.5-6.5	Moderate	0.28		
	27-72	35-50	1.35-1.50	0.6-2.0	0.10-0.13	4.5-6.5	Moderate	0.28		
5B	0-9	5-20	1.30-1.50	2.0-6.0	0.12-0.14	4.5-6.5	Low	0.28	4	.5-1
Cecil	9-16	20-35	1.30-1.50	0.6-2.0	0.13-0.15	4.5-5.5	Low	0.28		
	16-65	35-70	1.30-1.50	0.6-2.0	0.13-0.15	4.5-5.5	Low	0.28		
6A	0-3	10-35	1.30-1.60	0.6-2.0	0.15-0.24	4.5-6.5	Low	0.28	5	1-4
Chewacla	3-45	18-35	1.30-1.60	0.6-2.0	0.12-0.20	4.5-6.5	Low	0.28		
	45-65	---	---	---	---	---				
7B	0-9	27-40	1.20-1.50	0.6-2.0	0.12-0.17	5.1-6.0	Moderate	0.24	3	.5-2
Cullen	9-52	35-70	1.30-1.60	0.6-2.0	0.10-0.14	5.1-6.0	Moderate	0.24		
	52-65	30-50	1.30-1.60	0.6-2.0	0.13-0.17	5.1-6.0	Moderate	0.24		
8B, 8C	0-5	15-35	1.20-1.40	0.6-2.0	0.14-0.17	5.1-7.3	Low	0.32	3	.5-2
Iredell	5-23	40-60	1.20-1.45	0.06-0.2	0.16-0.22	5.6-7.3	Very high	0.20		
	23-43	10-35	1.30-1.60	0.06-0.2	0.14-0.18	6.1-7.8	Moderate	0.28		
	43-63	---	---	---	---	---				
9E	0-13	5-15	1.35-1.55	6.0-20	0.07-0.10	4.5-6.0	Very low	0.24	3	.5-2
Louisburg	13-28	7-18	1.40-1.60	6.0-20	0.08-0.12	4.5-6.0	Very low	0.24		
	28-72	---	---	---	---	---				
10E*:										
Manteo	0-7	7-27	1.25-1.55	2.0-6.0	0.07-0.13	3.6-5.5	Low	0.28	1	.5-2
	7-14	10-35	1.35-1.65	2.0-6.0	0.07-0.14	3.6-5.5	Low	0.28		
	14	---	---	0.00-0.01	---	---				
Rock outcrop.										
11E	0-7	7-27	1.25-1.55	2.0-6.0	0.07-0.13	3.6-5.5	Low	0.28	1	.5-2
Manteo	7-14	10-35	1.35-1.65	2.0-6.0	0.07-0.14	3.6-5.5	Low	0.28		
	14	---	---	0.00-0.01	---	---				

See footnote at end of table.

Table 18.—Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
								K	T	
	In	Pct	g/cc	In/hr	In/in	pH				Pct
12B*, 12C*:										
Mattaponi	0-9	5-18	1.30-1.55	0.6-6.0	0.08-0.15	4.5-5.5	Low	0.28	5	.5-2
	9-65	35-65	1.40-1.65	0.2-0.6	0.12-0.18	4.5-5.5	Moderate	0.28		
Cecil	0-9	5-20	1.30-1.50	2.0-6.0	0.12-0.14	4.5-6.5	Low	0.28	4	.5-1
	9-16	20-35	1.30-1.50	0.6-2.0	0.13-0.15	4.5-5.5	Low	0.28		
	16-65	35-70	1.30-1.50	0.6-2.0	0.13-0.15	4.5-5.5	Low	0.28		
13B, 13C, 13D	0-7	2-18	1.45-1.70	2.0-6.0	0.06-0.12	4.5-6.0	Low	0.15	4	.5-2
Mayodan	7-45	35-60	1.25-1.55	0.6-2.0	0.12-0.18	4.5-5.5	Moderate	0.28		
	45-61	---	---	---	---	---	---	---		
14B	0-4	8-25	1.30-1.50	0.6-2.0	0.14-0.19	5.6-7.3	Low	0.24	4	.5-2
Mecklenburg	4-39	40-60	1.40-1.60	0.06-0.2	0.12-0.14	5.6-7.3	Moderate	0.28		
	39-65	20-35	1.40-1.60	0.6-2.0	0.12-0.14	5.6-7.3	Low	0.32		
15B*, 15C*, 15D*:										
Mecklenburg	0-4	8-25	1.30-1.50	0.6-2.0	0.14-0.19	5.6-7.3	Low	0.24	4	.5-2
	4-39	40-60	1.40-1.60	0.06-0.2	0.12-0.14	5.6-7.3	Moderate	0.28		
	39-65	20-35	1.40-1.60	0.6-2.0	0.12-0.14	5.6-7.3	Low	0.32		
Poindexter	0-7	10-25	1.25-1.45	2.0-6.0	0.12-0.18	5.1-7.3	Low	0.32	3	.5-2
	7-30	20-35	1.35-1.45	0.6-2.0	0.13-0.19	5.1-7.3	Low	0.24		
	30-51	---	---	0.0-0.06	---	---	---	---		
16B	0-12	6-12	1.35-1.45	0.6-2.0	0.14-0.20	4.5-6.5	Low	0.24	4	2-5
Nason	12-45	28-53	1.40-1.50	0.6-2.0	0.12-0.19	4.5-5.5	Moderate	0.32		
	45-63	---	---	0.00-0.06	---	---	---	---		
17B*, 17C*, 17D*:										
Nason	0-12	6-12	1.35-1.45	0.6-2.0	0.14-0.20	4.5-6.5	Low	0.24	4	2-5
	12-45	28-53	1.40-1.50	0.6-2.0	0.12-0.19	4.5-5.5	Moderate	0.32		
	45-63	---	---	0.00-0.06	---	---	---	---		
Manteo	0-7	7-27	1.25-1.55	2.0-6.0	0.07-0.13	3.6-5.5	Low	0.28	1	.5-2
	7-14	10-35	1.35-1.65	2.0-6.0	0.07-0.14	3.6-5.5	Low	0.28		
	14	---	---	0.00-0.01	---	---	---	---		
18B*, 18C*, 18D*:										
Pacolet	0-7	8-20	1.00-1.50	2.0-6.0	0.08-0.12	4.5-6.5	Low	0.20	3	.5-2
	7-29	35-65	1.30-1.50	0.6-2.0	0.12-0.15	4.5-6.0	Low	0.28		
	29-64	15-30	1.20-1.50	0.6-2.0	0.08-0.15	4.5-6.0	Low	0.28		
Louisburg	0-13	5-15	1.35-1.55	6.0-20	0.07-0.10	4.5-6.0	Very low	0.24	3	.5-2
	13-28	7-18	1.40-1.60	6.0-20	0.08-0.12	4.5-6.0	Very low	0.24		
	28-72	---	---	---	---	---	---	---		
19E	0-7	10-25	1.25-1.45	2.0-6.0	0.12-0.18	5.1-7.3	Low	0.32	3	.5-2
Poindexter	7-30	20-35	1.35-1.45	0.6-2.0	0.13-0.19	5.1-7.3	Low	0.24		
	30-51	---	---	0.0-0.06	---	---	---	---		
20A	0-6	10-27	1.30-1.60	0.6-2.0	0.16-0.24	4.5-6.5	Low	0.32	5	.5-2
Riverview	6-38	18-35	1.20-1.40	0.6-2.0	0.15-0.22	4.5-6.0	Low	0.24		
	38-65	4-18	1.20-1.50	2.0-6.0	0.07-0.11	4.5-6.0	Low	0.17		
21A	0-6	10-18	1.20-1.35	0.6-2.0	0.12-0.17	3.6-5.5	Low	0.28	5	<2
State	6-65	18-40	1.35-1.50	0.6-2.0	0.14-0.19	3.6-5.5	Low	0.28		

See footnote at end of table.

Table 18.—Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
								K	T	
	In	Pct	g/cc	In/hr	In/in	pH				Pct
22B*, 22C*, 22D*:										
Tatum	0-10	12-27	1.10-1.40	0.6-2.0	0.16-0.20	4.5-5.5	Low	0.37	4	.5-2
	10-41	45-60	1.40-1.60	0.6-2.0	0.10-0.19	4.5-5.5	Moderate	0.28		
	41-60	---	---	0.00-0.06	---	---				
Manteo	0-7	7-27	1.25-1.55	2.0-6.0	0.07-0.13	3.6-5.5	Low	0.28	1	.5-2
	7-14	10-35	1.35-1.65	2.0-6.0	0.07-0.14	3.6-5.5	Low	0.28		
	14	---	---	0.00-0.01	---	---				
23B	0-10	12-27	1.10-1.40	0.6-2.0	0.16-0.20	4.5-5.5	Low	0.37	4	.5-2
Tatum	10-41	45-60	1.40-1.60	0.6-2.0	0.10-0.19	4.5-5.5	Moderate	0.28		
	41-60	---	---	0.00-0.06	---	---				
24B, 24C	0-4	15-25	1.30-1.50	2.0-6.0	0.14-0.18	4.5-5.5	Low	0.37	5	.5-2
Turbeville	4-65	30-60	1.35-1.50	0.6-2.0	0.13-0.16	4.5-5.5	Moderate	0.24		
25B*:										
Turbeville	0-4	15-25	1.30-1.50	2.0-6.0	0.14-0.18	4.5-5.5	Low	0.37	5	.5-2
	4-65	30-60	1.35-1.50	0.6-2.0	0.13-0.16	4.5-5.5	Moderate	0.24		
Tatum	0-10	12-27	1.10-1.40	0.6-2.0	0.16-0.20	4.5-5.5	Low	0.37	4	.5-2
	10-41	45-60	1.40-1.60	0.6-2.0	0.10-0.19	4.5-5.5	Moderate	0.28		
	41-60	---	---	0.00-0.06	---	---				
25C*, 25D*:										
Turbeville	0-4	15-25	1.30-1.50	2.0-6.0	0.14-0.18	4.5-5.5	Low	0.37	5	.5-2
	4-65	30-60	1.35-1.50	0.6-2.0	0.13-0.16	4.5-5.5	Moderate	0.24		
Tatum	0-5	12-27	1.10-1.40	0.6-2.0	0.16-0.20	4.5-5.5	Low	0.37	4	.5-2
	5-41	45-60	1.40-1.60	0.6-2.0	0.10-0.19	4.5-5.5	Moderate	0.28		
	41-60	---	---	0.00-0.06	---	---				
26*:										
Udorthents.										
Urban land	0-6	---	---	---	---	---				---
27B	0-7	5-20	1.25-1.60	2.0-6.0	0.10-0.18	3.6-5.5	Low	0.24	3	.5-3
Wedowee	7-25	35-45	1.30-1.50	0.6-2.0	0.12-0.18	3.6-5.5	Low	0.28		
	25-65	15-30	1.20-1.50	0.6-2.0	0.08-0.15	3.6-5.5	Low	0.28		
28C*, 28D*:										
Wedowee	0-7	5-20	1.25-1.60	2.0-6.0	0.10-0.18	3.6-5.5	Low	0.24	3	.5-3
	7-25	35-45	1.30-1.50	0.6-2.0	0.12-0.18	3.6-5.5	Low	0.28		
	25-65	15-30	1.20-1.50	0.6-2.0	0.08-0.15	3.6-5.5	Low	0.28		
Louisburg	0-13	5-15	1.35-1.55	6.0-20	0.07-0.10	4.5-6.0	Very low	0.24	3	.5-2
	13-28	7-18	1.40-1.60	6.0-20	0.08-0.12	4.5-6.0	Very low	0.24		
	28-72	---	---	---	---	---				
29A	0-6	5-20	1.35-1.60	2.0-6.0	0.10-0.15	4.5-6.5	Low	0.24	5	2-5
Wehadkee	6-74	18-35	1.30-1.50	0.6-2.0	0.16-0.20	4.5-6.5	Low	0.32		
30A	0-14	10-27	1.20-1.40	0.6-2.0	0.14-0.22	5.1-7.3	Low	0.32	5	1-4
Wingina	14-72	18-35	1.20-1.40	0.6-2.0	0.10-0.22	5.1-7.3	Low	0.28		
31A	0-14	10-27	1.20-1.40	0.6-2.0	0.14-0.22	5.1-7.3	Low	0.32	5	1-4
Yogaville	14-72	18-35	1.20-1.40	0.6-2.0	0.10-0.22	5.1-7.3	Low	0.28		

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 19.—Soil and Water Features

("Flooding" and "water table" and terms such as "very brief," "brief," "apparent," and "perched" are explained in the text. The symbol < means less than; > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	Uncoated steel	Concrete
					Ft			In			
1A—Altavista	C	Occasional	Very brief	Mar-Jul	1.5-2.5	Apparent	Dec-Apr	>60	---	Moderate	Moderate.
2B*, 2C*:											
Appomattox	B	None	---	---	>4.0	---	---	>60	---	High	Moderate.
Cullen	C	None	---	---	>6.0	---	---	>60	---	High	Moderate.
3A—Batteau	C	Frequent	Very brief to brief.	Nov-Mar	1.0-2.5	Apparent	Nov-Mar	>60	---	Moderate	Low.
4B, 4C, 4D—Beckham	B	None	---	---	>6.0	---	---	>60	---	High	Moderate.
5B—Cecil	B	None	---	---	>6.0	---	---	>60	---	High	High.
6A—Chewacla	C	Frequent	Brief to long.	Nov-Apr	0.5-1.5	Apparent	Nov-Apr	>60	---	High	Moderate.
7B—Cullen	C	None	---	---	>6.0	---	---	>60	---	High	Moderate.
8B, 8C—Iredell	C/D	None	---	---	1.0-2.0	Perched	Dec-Apr	40-60	Soft	High	Low.
9E—Louisburg	B	None	---	---	>6.0	---	---	>40	Soft	Low	Moderate.
10E*:											
Manteo	C/D	None	---	---	>6.0	---	---	10-20	Hard	Low	High.
Rock outcrop	D	None	---	---	>6.0	---	---	0	Hard	---	---
11E—Manteo	C/D	None	---	---	>6.0	---	---	10-20	Hard	Low	High.
12B*, 12C*:											
Mattaponi	C	None	---	---	3.0-6.0	Perched	Dec-Mar	>60	---	High	High.
Cecil	B	None	---	---	>6.0	---	---	>60	---	High	High.
13B, 13C, 13D—Mayodan	B	None	---	---	>6.0	---	---	>60	---	High	Moderate.
14B—Mecklenburg	C	None	---	---	>6.0	---	---	>60	---	High	Moderate.
15B*, 15C*, 15D*:											
Mecklenburg	C	None	---	---	>6.0	---	---	>60	---	High	Moderate.
Poindexter	B	None	---	---	>6.0	---	---	20-40	Soft	Moderate	Moderate.

See footnote at end of table.

Table 19.—Soil and Water Features--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	Uncoated steel	Concrete
					Ft			In			
16B—Nason	B	None	---	---	>6.0	---	---	40-60	Soft	Moderate	High.
17B*, 17C*, 17D*:											
Nason	B	None	---	---	>6.0	---	---	40-60	Soft	Moderate	High.
Manteo	C/D	None	---	---	>6.0	---	---	10-20	Hard	Low	High.
18B*, 18C*, 18D*:											
Pacolet	B	None	---	---	>6.0	---	---	>60	---	High	High.
Louisburg	B	None	---	---	>6.0	---	---	>40	Soft	Low	Moderate.
19E—Poindexter	B	None	---	---	>6.0	---	---	20-40	Soft	Moderate	Moderate.
20A—Riverview	B	Occasional	Brief	Dec-Mar	3.0-5.0	Apparent	Dec-Mar	>60	---	Low	Moderate.
21A—State	B	Rare	---	---	4.0-6.0	Apparent	Dec-Jun	>60	---	Moderate	High.
22B*, 22C*, 22D*:											
Tatum	B	None	---	---	>6.0	---	---	40-60	Soft	High	High.
Manteo	C/D	None	---	---	>6.0	---	---	10-20	Hard	Low	High.
23B—Tatum	B	None	---	---	>6.0	---	---	40-60	Soft	High	High.
24B, 24C—Turbeville	C	None	---	---	>6.0	---	---	>60	---	High	High.
25B*, 25C*, 25D*:											
Turbeville	C	None	---	---	>6.0	---	---	>60	---	High	High.
Tatum	B	None	---	---	>6.0	---	---	40-60	Soft	High	High.
26*:											
Udorthents.											
Urban land	---	None	---	---	>2.0	---	---	>10	---	---	---
27B—Wedowee	B	None	---	---	>6.0	---	---	>60	---	Moderate	High.
28C*, 28D*:											
Wedowee	B	None	---	---	>6.0	---	---	>60	---	Moderate	High.
Louisburg	B	None	---	---	>6.0	---	---	>40	Soft	Low	Moderate.
29A—Wehadkee	D	Frequent	Brief to long.	Nov-Jun	0-1.0	Apparent	Nov-May	>60	---	High	Moderate.
30A—Wingina	B	Occasional	Very brief	Dec-Mar	>4.0	Apparent	Dec-Mar	>60	---	Low	Moderate.
31A—Yogaville	D	Frequent	Very brief to brief.	Dec-May	0-1.0	Apparent	Dec-May	>60	---	Low	Moderate.

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 20.—Classification of the Soils

(An asterisk in the first column indicates that the soil is a taxadjunct to the series. See text for a description of those characteristics of the soil that are outside the range of the series)

Soil name	Family or higher taxonomic class
Altavista	Fine-loamy, mixed, thermic Aquic Hapludults
Appomattox	Clayey, mixed, thermic Typic Hapludults
Batteau	Fine-loamy, mixed, thermic Fluvaquentic Hapludolls
Beckham	Clayey, kaolinitic, thermic Rhodic Paleudults
*Cecil	Clayey, kaolinitic, thermic Typic Kanhapludults
Chewacla	Fine-loamy, mixed, thermic Fluvaquentic Dystrochrepts
Cullen	Clayey, mixed, thermic Typic Hapludults
Iredell	Fine, montmorillonitic, thermic Typic Hapludalfs
Louisburg	Coarse-loamy, mixed, thermic Ruptic-Ultic Dystrochrepts
Manteo	Loamy-skeletal, mixed, thermic Lithic Dystrochrepts
Mattaponi	Clayey, mixed, thermic Typic Hapludults
Mayodan	Clayey, mixed, thermic Typic Hapludults
Mecklenburg	Fine, mixed, thermic Ultic Hapludalfs
Nason	Clayey, mixed, thermic Typic Hapludults
*Pacolet	Clayey, kaolinitic, thermic Typic Kanhapludults
Poindexter	Fine-loamy, mixed, thermic Typic Hapludalfs
Riverview	Fine-loamy, mixed, thermic Fluventic Dystrochrepts
State	Fine-loamy, mixed, thermic Typic Hapludults
Tatum	Clayey, mixed, thermic Typic Hapludults
Turbeville	Clayey, mixed, thermic Typic Kandiudults
Udorthents	Udorthents
*Wedowee	Clayey, kaolinitic, thermic Typic Kanhapludults
Wehadkee	Fine-loamy, mixed, nonacid, thermic Typic Fluvaquents
Wingina	Fine-loamy, mixed, thermic Fluventic Hapludolls
Yogaville	Fine-loamy, mixed, thermic Fluvaquentic Haplaquolls